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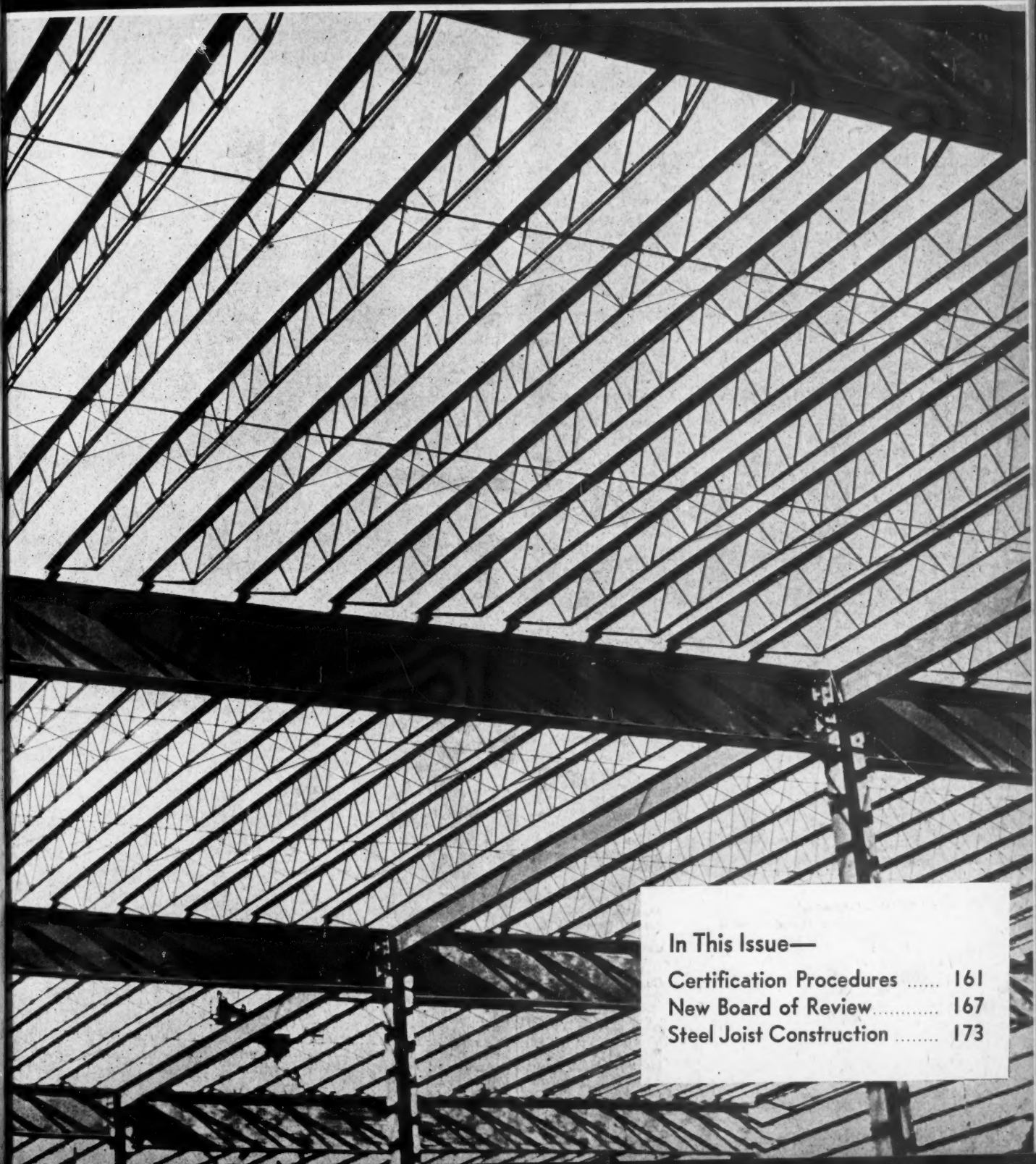
July 1947

Standardization



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Readers Write

Text on Industrial Standardization Available?

Sundstrand Machine Tool Company
Rockford, Illinois

Gentlemen: Will you please advise us if the fourteen lectures given by Dr John Gaillard at the Columbia University this spring are to be published in printed form?

WILLIAM C. AHLGREN
Standards Engineer

. . . The lectures have not been written out as yet, but Dr Gaillard used as a text his dissertation entitled, *A Study of the Fundamentals of Industrial Standardization and Its Practical Application, Especially in the Mechanical Field* (price $2.00). Plans have been made by Dr Gaillard, however, to prepare a book on industrial standardization for publication some time in 1948, using as a basis these lectures and those of a private seminar conducted in New York in June.

ASA Standards Great Help To Specifications Writer

Greenville, South Carolina

Gentlemen: As a specification writer, I have realized much benefit and satisfaction in my work from the study, and application by reference, of ASA Standards. I consider as particularly valuable those standards presenting recommended building codes for various types of construction. I am sure that, through the use of these instruments, the effectiveness of my specifications has been substantially improved. In this connection, too, I have found that the effort and time required for producing comprehensive specifications may be comparatively lessened.

Incidentally, an English engineer who had seen one of my published specifications, "Standard Specifications for Concrete Construction," recently inquired about the source of some of the data therein. Apparently, he desired authoritative assurance of its reliability. I was happy to be able to refer him to the ASA Standards from which I had obtained the useful information.

JAMES D. BEACHAM
Architect

Our Front Cover

Our front cover is a typical illustration of steel joist construction. Lightness and strength are expressed here. (See article on page 173.)

Photo—Ceco Steel Products Corporation

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July, 1947 Ruth E. Mason, Editor 35 Cents

ASA
Reg. U. S. Pat. Off.

The American Standards Association is a federation of national groups dealing with standardization. Through it, government, industry, labor, and the consumer work together to develop mutually satisfactory national standards. It acts as the authoritative channel for international cooperation in standardization work.

Subscription price $4.00 per year (foreign $5.00). Special to schools and libraries $2.00 (foreign $3.00). Re-entered at 2nd Class Matter 7/31/43, at the Post Office, New York, N. Y., Act of March 3, 1879.

General principles upon which any valid certification program should be based to substantiate claims of manufacturers whose products have been inspected by reliable testing agencies are given in the American Standard Practice for Certification Procedures.

Charles Phelps Cushing

New Service in the Public Interest

A Standard for *Certification Procedures*

By Bernard L. Oser

THE ultimate consumer—the entire 130,000,000 of us, including the small retail and industrial purchasers—have been buying goods and services all these years without benefit of any practicable way of rating the reliability of claims made by sellers. Even if advertising statements and label descriptions could be taken at face value, their adequacy as informative data is limited because the significance and comparative use-value of the qualities publicized are not usually stated.

Up to now the housewives and their families and the thousands of enterprises that buy relatively small quantities at a time have had no means of comparing competitive products in terms of the properties ascribed to them or their suitability for specific requirements.

Housewives, for instance, cannot afford to follow the practice of large industrial and institutional purchasing agents who buy materials according to specifications and authorize payment only on the basis of compliance tests which may be conducted in their own or in independent laboratories. On the other hand, the buying public's experience with the certification and approval programs that were created to meet the situation has been spotty and uncertain.

There were many attempts to give consumers the information and assistance they need. Consumer's Research and Consumers Union report their findings on "Recommended" or "Not Recommended" products. Magazines developed approval systems. Large stores established laboratories to guide both their own buyers as well as customers. The National Consumer-Retailer Council worked out a program of cooperation between consumers and retailers. Chain stores adopted grade labeling for the canned goods sold under their own brand names. Technical organizations, such as the American Society for Testing Materials, published standards for consumer goods.

To give the ultimate consumer honest, reliable, sincere, and significant descriptions of their products, some manufacturers have employed recognized laboratories to certify the validity of claims made in labeling and advertising.

Dr Bernard L. Oser, *director of the Food Research Laboratories, Inc, is chairman of the Sectional Committee on Principles Underlying Valid Certification and Labeling of Commodities, Z34, which prepared the new American Standard Practice for Certification Procedures. He represents the Association of Consulting Chemists and Chemical Engineers, Inc, endorsing sponsor for the standard, on the committee. Dr Oser is widely recognized as an authority in his field. He is chairman of the Division of Agricultural and Food Chemistry of the American Chemical Society, and coauthor of the book, "Practical Physiological Chemistry" (Hawk, Oser, and Summerson).*

A survey made by the American Standards Association in 1932 revealed that certification activities of some type were already being carried on by at least 60 national organizations. These included the Lumber Manufacturers' grading program, Underwriters' Laboratories label, American Gas Association's AGA seal of approval, and the grade names of the California and Florida fruit growers' association. The certification program of the Illuminating Engineering Society, backed by the Electrical Testing Laboratories' tests, has been among the outstanding examples. The "IES lamp" eventually became a household word synonymous with good performance.

The public, however, had no means of differentiating between the labels which were of important significance and those that were merely the figment of a publicist's active imagination, or between certifications that truly attested to value and those that were meaningless or had been sold for a fee without regard to the real merits of the product. As is the case with any worthwhile activity, the findings of even the best-known and most reliable of the certifying agencies were, in the eyes of the lay public, open to suspicion because of the practices of a few unscrupulous organizations.

It is obvious that certifying agencies must guarantee their own adherence to at least minimum recognized operating standards to merit public confidence in their implied objectivity. The certifying agency must be like Caesar's wife, above reproach, or the validity of its findings are doubtful. A questionable certifica-

tion is no certification.

Some organizations, notably the American Gas Association, based their tests on national standards prepared through a procedure that assured all groups concerned a voice in the development of the standards. In such cases, the standards on which the approvals were based were identified by the organization and copies could easily be obtained by the general public. Other organizations based their tests on standards developed under their own procedure but which were also identified and available.

Some, however, refused to give information concerning the standards on which their certification was based or on the criteria used in their tests.

ASA Sectional Committee Organized To Set up Certification Procedure

To give business and the public alike some means of recognizing valid certification representations, the Association of Consulting Chemists and Chemical Engineers asked the American Standards Association to set up a procedure for "certifying the certification." The ASA accepted the invitation and organized Sectional Committee Z34, which brought together representatives of the various groups concerned to formulate the principles that should be followed in order to insure validity for the resultant certification.

So logical was this request and the work so badly needed that after an unusually penetrating investigation under ASA auspices practically all interests among producers, distributors, and users reached the conclusion that a standard on certification procedures should be developed. Sectional Committee Z34 thus has wide and influential backing for its effort. It is anticipated that the same wide backing will be influential in bringing about application of the standard in the regularization of certification procedures.

In April 1947 the final standard, including changes based on the comments and criticisms received as the result of an unusually wide circulation of the document for comment and criticism, was approved as an American Standard.

This American Standard Practice for Certification Procedures is in the nature of a categorical statement of the general principles that should underlie a certification program that the public may regard as valid.

The standard covers a wide field. It is based mainly on the principle that every step leading to the certification of a product must be openly arrived at. Any organizations carrying out the functions of certification—whether they sponsor the certification, prepare the standard on which the certification is based, draw the samples for checking the claims of the manufacturer, carry out the tests to determine conformity with the standard, or defray the costs of the program—must under this procedure make public their qualifications and their responsibilities.

In order to qualify, the standards used must be nationally recognized in themselves or must have been developed by a "qualified trade association, agency, society, or other organization of national scope." If no such standards are available, then the standards that are used must be developed through the participation of competent consumer, producer, and general interest groups. Approval of a standard by the American Standards Association is recognized as *prima facie* evidence that it complies with these requirements.

The standards upon which the certification of a product rests must be available either without cost or at a reasonable charge.

To be accepted as valid any certification program, including the sampling of the product and the examination on which the certification is based, must be re-examined at appropriate intervals.

Only qualified trade association testing laboratories, professional societies, or other nationally recognized organizations are to be recognized as being properly responsible for valid certification programs. The testing or inspection agency, itself must be independent of any of the groups directly concerned with the product and must be competent in the field.

The labels or tags carrying the certification statement must identify the certifying agency and the standard or standards on which the certification is based, and must state in what particulars the product conforms with the standard.

In case of disagreements the standard practice provides that the question shall be taken to a referee who must be acceptable to the certification agency, to the testing agency, and the party raising the question.

Although these principles already underlie some of the certification programs now in operation, no one can foresee all the problems that may arise in putting them into effect generally. Already, the Board of Directors of the American Standards Association is considering the question of further ASA participation. Moreover it is expected that questions will arise concerning the standards that are used, the organizations making the tests, and the interpretation of other aspects of the standard.

Committees of the ASA Board are studying the entire question of what should be the role of the American Standards Association in certification and labeling.

CERTIFIED MERCHANDISE
UNITED STATES TESTING CO., INC.
SEAL OF QUALITY
COMPLIES WITH NATIONAL SAFETY REQUIREMENTS
AMERICAN GAS ASSOCIATION
APPROVED
AMERICAN
CERTIFIED
WASHABLE
INSTITUTE OF LAUNDERING
FLUORESCENT LAMP BALLASTS
The Manufacturer guarantees by affixing this Label that these FLUORESCENT LAMP BALLASTS duplicate samples found by periodic examination to comply with
"SPECIFICATIONS FOR FLUORESCENT LAMP AUXILIARIES"
which are sponsored by the Certified Ballast Manufacturers.
ELECTRICAL TESTING LABORATORIES, INC.
NEW YORK, N. Y.
Most Fluorescent Lamps carry the standard warranty of their manufac-
CERTIFIED
SPECIFICATIONS
turers when used with auxiliary equipment bearing this label
FOR HIGH POWER FACTOR

A few of the well-known, authoritative certification labels.

The National Electrical Manufacturers Association, trade association for the makers of household electrical appliances as well as industrial equipment, considers these questions so important that it recently sent an analysis of its position to its members for comment and criticism before adopting an official association policy. In short, the NEMA philosophy* as submitted to NEMA members includes the following:

(1) Any certification labeling program should meet the requirements of the American Standard on valid certification;

(2) Most electrical products and particularly electrical appliances should carry an informative and descriptive label, because such informative and descriptive labels are not only desirable but are becoming wellnigh necessary;

(3) The American Standards Association should make all necessary investigations and should assume the responsibility of determining whether a certification program meets the requirements of the American Standard Practice for Certification Procedures;

(4) Any testing laboratory used by an association under an association-sponsored plan for certification labeling should be completely independent of control by the manufacturers whose products are involved;

(5) Certification labeling programs should be decentralized with the trade association in each trade or industry undertaking the responsibility for such a program. In such a case, the labels should identify the standards used and indicate approval by the American Standards Association of the certification program;

(6) ASA should not certify the products themselves but should maintain a judicial attitude toward certification plans and certifying agencies.

As a result of the completion of the American Standard Practice for valid certification, through the deliberations of Sectional Committee Z34, there is now available a standard for certification procedures "to which the wise and honest can repair." Any organization engaged in providing public guidance as to the qualities of goods and services may check its procedure against the elements of a valid certification set forth in this standard. In any case where the procedure of such an organization does not agree with the standard, that organization will do well to reexamine its practice. All concerned can feel sure that any certification procedure that is definitely out of alignment with the standard is not to be relied upon for public assurance.

It is hoped that this standard will be influential in regularizing many of the existing certification procedures that may not at present be in line with it. It remains for future decision what part if any the American Standards Association will take in promoting adherence to the principles here laid down. Meanwhile, all who are intent upon affording reliable guidance to buyers may appropriately join in advocating adherence to the principles of this standard.

* For a full exposition of the NEMA views, see INDUSTRIAL STANDARDIZATION, March 1947, page 63.

Copies of the American Standard Practice for Certification Procedures, Z34.1-1947, are available from the American Standards Association, 70 East 45th Street, New York 17, at 35 cents each.

Board of Experts Sets New Standards for Tea

America's tea drinkers will not need to worry about the quality of imported tea now that the U. S. Board of Tea Experts has held its annual meeting.

Composed of seven leading authorities in the art of fine tea selection, the purpose of this group is to set minimum standards for the eight or ten different types of tea that will be coming into this country with the end of wartime restrictions. During the war, the British Ministry of Food supplied the United States with all of its tea. This did away with the need for standards during that period since grades were determined in advance by the two countries.

Since May 1, however, trade in tea has returned to prewar import methods and is again being received from India and Japan, as well as other sections of the Far East.

About 150 different teas were sampled by the Board before arriving at any standard specifications. Appearance, aroma, and flavor were the basis for decision. Samples of the standards set have been sent to the four Federal tea examiners at the principal ports of entry—New York, Boston, San Francisco, and Seattle.

AHEA Sees Opportunity For Standards

"Since the American Home Economics Association began to work for standards for consumer goods following discussion at its 1922 annual meeting of the sad state of textiles, no opportunity for substantial progress on standards has been as great as that which exists today. The trend of the times is unmistakable.

"In an unusual paper entitled 'A Brief Research in Research,' published in *Chemical and Metallurgical Engineering* for July 1946, Roland P. Soule analyzes the trends in research over the past 80 years, as reflected in the rise to dominance during different eras of industries such as railroads, telephone, electrometallurgy, automobile, and chemical products. Dr Soule predicts that for the next 20 years, research 'is going to work more for the consumer and less for the producer,' that technology will take 'the consumer's point of view and can best be described as functional engineering.'

"One of the developments confirming this trend is the expanding program of the American Standards Association in standards for consumer goods."

—*Journal of Home Economics*, January 1947.

Daily Frozen Food Quotations Held Pending Standardization

The publication of daily quotations covering frozen foods has been deferred by the *Journal of Commerce* "until pending moves for packaging standardization are completed."

Following a careful study of the situation, the *Journal of Commerce* has decided that present package size diversification makes the listing of a thoroughly informative price table impracticable. The *Journal* will, however, continue coverage of industry developments and will add frozen food quotations to its comprehensive listing of food prices "when package and quality standardization in the field makes such action possible."

A subcommittee appointed by the American Standards Association is now studying the possibilities of organizing a project on frozen food packages under ASA procedure.

Economic Aspects of Standardization

. . . it is not a question as to whether one can afford standardization . . . the question is, "Can one afford to be without it? . . .

By John F. Cramer

Standards Unit Chief,
Boeing Aircraft Company, Seattle, Washington

IN industry, the word "standardization" means more than the dictionary definition of the term. To do things in an orderly and well coordinated manner, on a dynamic not static basis, to accomplish real savings in design, manufacture, and ultimate cost to consumer, standardization means "to move forward together."

Quite naturally, it so happens that application of standardization practices has divded engineers into several groups, namely: (1) Those engineers who seek to introduce new items or parts for use without sufficient justification. (2) Those engineers who fear standardization because of its possible effect on future development and individual initiative. (3) Those engineers who add variants to existing parts through carelessness or ignorance resulting in the building up of stock lists unnecessarily.

The second group believes if you standardize anything you prevent progress. One must feel sympathetic for this group. Standardization does not mean adopting a standard and saying no other part shall be used no matter how good it is, for that is precisely what standardization does not mean. Standardization must be the means whereby the best, and only the best, is acquired and used, with the best being continued in use only so long as it remains the best, and being discarded when something else has proved to be better from a broad point of view.

The first and second groups have grown in numbers to a point where they do not fully realize the harmful effect their efforts have had on production factors and resultant savings in cost of articles. They have lost sight of the fact that, through standardization, items common to more than one use can be ordered, the material pooled together, and better tools prepared.

An ever-increasing number of groups have heartily indorsed standardization and have worked out extensive programs of their own. Experience indicates that benefits are increased by the wider use of standards in one or more of the ways listed below:

1. In production of the article itself, standardization reduces waste in manufacture through longer runs, less frequent changes, higher rates of individual production, more accurate estimating for production, more effective stock control, better and simpler inspection, less equipment, fewer raw materials, cheaper handling of stock, closer cost accounting, and improvement of design.
2. Labor relations are improved through higher earnings resulting from increased individual production, more permanent employment, decreased labor turnover (which is always costly), easier training of new employees, increased inventory turnover (which is basic for earnings), and lower selling cost.

The above can be applied to manufacturer, consumer, distributor, testing laboratory, and others. In gen-

eral, standardization is doing things in an orderly and well coordinated manner which is one of the prime essentials in effective management.

During the design of the B-29 airplane, it was necessary to develop a special high strength bolt with reduced head clearances for use in wing attachment installations and similar structural applications. As a result, a company internal wrenching bolt was developed. The design of this bolt was based on one used in another airplane. This bolt proved to be structurally satisfactory and was released for the B-29 airplane in production quantities. However, due to manufacturing problems attendant on the fabrication of this bolt, and the limited quantity required (since the bolt was used only by the Boeing Company) only one satisfactory source of supply could be found. As a result, procurement of this item became critical, and the unit cost was excessively high.

This was a typical standards problem.

NASC Develops Standard Which Results in Savings on Airplanes

A survey by the National Aircraft Standards Committee indicated that many companies were interested in the internal wrenching bolt, and that several of the aircraft companies were using similar bolts. The NASC realized the importance of these bolts in designs, and a need for standardization, which would result in interchangeability, adequate sources of supply, and reduced costs. An NASC project was assigned to develop a series of internal wrenching bolts in a manner acceptable to the aircraft industry but incorporating the necessary improvements to facilitate large quantity production and a given minimum weight. Through coordination with the aircraft industry and bolt manufacturers (American Institute of Bolt, Nut and Rivet Manufacturers) the NAS 144 series of internal wrenching bolt standards were developed. After completion of this project and the adoption of the standard, Boeing-Seattle realized considerable savings on airplanes through the use of NAS standards in place of company standards for internal wrenching bolts.

A comparison of the costs of internal wrenching bolts used on the B-29 airplane gives the following data. In preparation of these data, only average quantities of bolts were considered. The reason for this is that purchases included orders for spares, extra bolts to cover spoilage, and the variation in the number of bolts per airplane due to design changes. The average cost of bolts for various lengths was used in the calculations rather than attempting to itemize the many individual lengths.

The following is a comparison of the cost in cents of internal wrenching bolts:

Company Bolt	Cost	NAS	Cost	Saving
¼ Diam	0.92	144	0.1315	0.79
5/16 Diam	1.01	145	0.1500	0.86
⅜ Diam	1.12	146	0.1612	0.96
7/16 Diam	1.31	147	0.2488	1.06
½ Diam	1.37	148	0.2673	1.10
9/16 Diam	1.45	149	0.3695	1.08
⅝ Diam	1.72	150	0.4283	1.29
¾ Diam	1.81	152	0.6307	1.18
⅞ Diam	2.03	154	1.0350	1.00
1 Diam	2.14	156	1.1483	0.99

In addition to the costs listed above, the following weight saving in pounds was realized for bolts with 2-in. grip length. While weight saving in aircraft is paramount, it is also highly desirable in all other fields of industry.

Company Bolt	Weight	NAS	Weight	Saving
¼ Diam	0.0503	144	0.0400	0.0103
5/16 Diam	0.0797	145	0.0642	0.0155
⅜ Diam	0.1222	146	0.1007	0.0215
7/16 Diam	0.1752	147	0.0469	0.0283
½ Diam	0.2361	148	0.1954	0.0407
9/16 Diam	0.3120	149	0.2643	0.0487
⅝ Diam	0.4093	150	0.3358	0.0735
¾ Diam	0.6323	152	0.5331	0.0992
⅞ Diam	0.9172	154	0.7665	0.1507
1 Diam	1.3149	156	1.0894	0.2255

In the production of 700 airplanes and considering all sizes of internal wrenching bolts, we were able to realize a saving of $279,960.00, or an average of $399.94 per airplane.

The standardization program was extended to include close tolerance bolts. The following is a comparison of the cost of close tolerance bolts in cents.

Company Bolt	Cost	NAS	Cost	Saving
10-32	0.0334	53	0.0297	0.0037
¼ Diam	0.0380	54	0.0322	0.0058
5/16 Diam	0.0596	55	0.0514	0.0082
⅜ Diam	0.0625	56	0.0530	0.0095
7/16 Diam	0.0954	57	0.0833	0.0121
½ Diam	0.1120	58	0.0963	0.0157
9/16 Diam	0.4100	59	0.3438	0.0662
⅝ Diam	0.3440	60	0.2902	0.0538
¾ Diam	0.8450	62	0.6758	0.1692
1 Diam	0.9370	66	0.7521	0.1849

In the production of 1000 airplanes and considering all sizes of close tolerance bolts, we were able to effect a saving of $37,214.00, or an average of $37.21 per airplane. It must be remembered that the above savings were confined entirely to one company and on one model airplane.

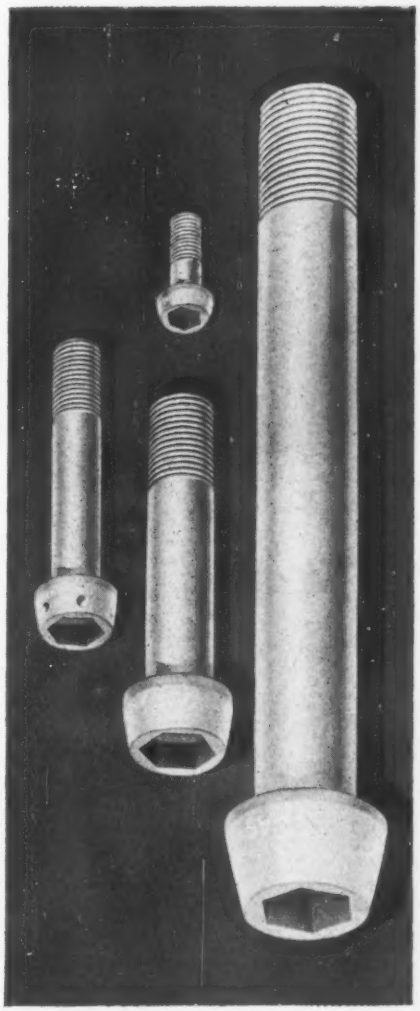
An interesting comparison may also be made between the cost of an NAS standard close tolerance bolt and AN (Army-Navy) standard bolt. This is illustrated by the following cost comparison:

Close Tolerance Bolt ¼ Diam 2 11/32 in. Long

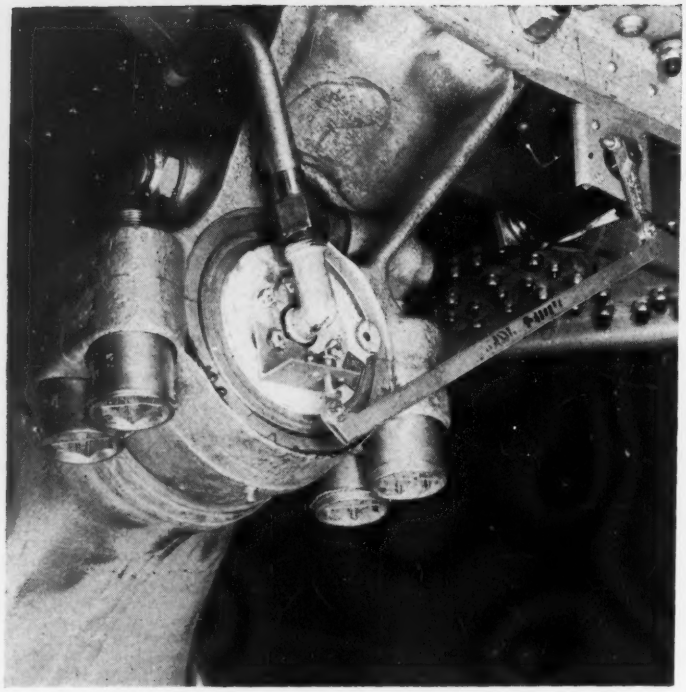
Company Standard	NAS Standard	AN Standard (Not close tolerance)
0.07 each	0.05 each	0.02 each

Close Tolerance Bolt 3/16 Diam 1 9/32 in. Long

Company Standard	NAS Standard	AN Standard (Not close tolerance)
0.054 each	0.032 each	0.009 each



Standardization of these internal wrenching bolts gave important savings not only in cost, but in weight.



Just a fraction of the number of bolts used in the main landing gear assembly on a B-29 are shown, in this detail enlargement of a portion of an airplane's landing gear.

Thus, as can be seen, while NAS standard close tolerance bolts are considerably cheaper than a comparable company standard, they are still more expensive than an AN standard non-close tolerance bolt. In addition, the increased unit cost of the close tolerance bolt over the AN Standard bolt is but a portion of the total cost incurred in using these items. Man-hours required to install these bolts properly, namely reaming holes, selected fitting of bolts, and drive fit installations, add greatly to the airplane cost. These factors have been largely overlooked by the designers in the past. Experience in production in the past war has shown that more serious consideration of the cost factor in aircraft design must be considered in the ever increasing competitive field for postwar production.

Additional Sources of Supply Aid in Field Service, Replacement

While the above savings may not appear too impressive due to the small quantity of bolts involved, it has resulted in five or six sources of supply instead of one source of supply. The additional sources of supply are of particular importance to field service and from a replacement standpoint.

With smaller quantities of parts to be ordered for postwar aircraft, NAS and AN standards will show savings over company standards if all companies use these standards. This will be due to the tooling and setup costs which will be divided among the many users. These savings will be in addition to those realized as a result of improved design and production resulting from the consolidation of many ideas from the various consumers and producers.

Improved Structural Value of Bolts Would Result in Ultimate Savings

At present, the NASC has a project which will further improve the structural value of the NAS internal wrenching bolts. The cost of the bolts may be increased, but the additional fatigue strength of the bolts will permit each bolt to carry a greater load. This will permit the use of fewer bolts and smaller fittings. The possible weight savings will reduce over-all costs and increase the payload in commercial aircraft. In addition, the improvements desired may result in more widespread use of internal wrenching bolts so that cost of bolts in the final analysis might be even less than if the bolts were not improved. It must be obvious that it would require a much greater expenditure of money by industry if each company had to develop its own internal wrenching bolts instead of the present procedure. If each company developed its own standards, the development costs would be multipled many times and the final result would be that each company would have different designs. Costs are reduced by increased volume of production. With the present comparatively small airplane production, what other means have we to increase volume of parts to be ordered except by further standardization?

Standardization Eliminates Some Sizes, Aids Procurement in Large Quantities

The reconversion period thus far has shown the demand to be greater than the supply, and many vendors have been reluctant to accept small orders from the aircraft industry while large orders are being offered by the consumer industries. It is believed further standardization can help to remedy this situation by eliminating some sizes, in order to permit procurement of fewer items in larger quantities. After reconversion, normal competition should require continued and improved standardization to reduce cost on producing and maintaining airplanes for the Army, Navy, and commercial airlines, and the private flyer.

True Standard Part Easily Available At Low Price, Carried in Stock

It is believed that many items now classed as standards have such classification only because they appear on a standard drawing. A true standard part is one which is used in sufficient quantity to be available at a low price from several sources of supply and carried in stock. Parts made by only one or two vendors which are not carried in stock are specials in terms of cost regardless of drawing classification. Business managements should establish adequate provisions for the handling of standardization problems. These should be handled first within their own companies, second within their trade associations, and third within professional and technical societies.

Standardization is like research—real success and progress cannot afford to be without it.

—Reprinted by special permission of "Fasteners," publication of the American Institute of Bolt, Nut and Rivet Manufacturers.

New Board of Review Initiates Work on Standards

The new Board of Review, under the chairmanship of J. R. Townsend, has now started its work with consideration of the first standard submitted to it—the American Standard For Machine Pins, B5.20.

The procedure on which the Board will function has been carefully worked out in view of the responsibility which now rests on it as the final authority for approval of American Standards. Although the Standards Council itself will review any standard which is brought to it for final decision, the action of the Board of Review will in effect be final. For this reason, the Board is taking many precautions to assure that its decisions will be on a solid basis.

All questions on which the Board will take action will come to it from the correlating committees, those coordinating committees which direct the work on standards in their special fields. These committees are the Building Code Correlating Committee, the Highway Safety Coordinating Committee, the Mechanical Standards Committee, the Electrical Standards Committee, the Safety Code Correlating Committee, the Mining Standardization Correlating Committee. Any action which is to be submitted to the Board of Review by these committees must be acted upon by the committee by letter ballot, even though final action on the question is taken in a meeting of the committee. An 83 1/3 percent affirmative vote is required in the correlating committee.

Committee Report Includes Ballot

The report of the action of the correlating committee, prepared by the committee's secretary, is to include the result of the ballot, a record of the dissenting votes, and the reasons for them. The material to be submitted to the Board of Review will also include a copy of the letter submitting the proposed standard to the ASA and all other supplementary data. Copies of the minutes of the correlating committee in which the standard was discussed are also to be submitted.

For approval of a standard the Board of Review must have five affirmative votes, only one negative vote being permitted. The objective of the Board, however, will be to secure unanimous action, it was agreed.

A monthly report of the Board's actions is to be submitted to the Standards Council, with a notification of the approval or withdrawal of standards to be published in INDUSTRIAL STANDARDIZATION.

American Safety Standards Answer to Unsafe Machines

"In the case of many machines and machine tools marketed without adequate operating safeguards, the unsafe physical condition is traceable to a complexity of unsafe acts. In the main these are the policy of the manufacturer in making and marketing a machine not provided with known or obviously necessary operating safeguards; the attitude of designers who more often than not fail to consider safety of operation; and finally the buyer or user for purchasing such machines. When confronted with the problem, all three put up the same plea; namely, economy or competition.

"A more elusive problem is the conversion of machines for purposes for which they were not designed. . . . In such instances, the safety man is often confronted with crowded conditions, inadequate exits, makeshift substandard stairways, poor ventilation, poor lighting, and a variety of other deficiencies contributing to what can best be described as an unsafe working environment . . .

"Just how should this broad problem be attacked?

"Fortunately, the method is clearly defined and considerable progress has already been made. The answer lies in the codes promulgated and issued, and those yet to be developed, by the American Standards Association. It is therefore of the utmost importance that this group be given the complete support of all safety people at the policymaking level in each organization. Such support must include active participation in the preparation of codes embodying safety standards and the adoption of the codes by the member or subscribing organizations."

—From *Safety Engineering*, February 1947, p 39.

Safety Standards for Engineer's "Tool Box"

"The importance of dependable technical information to the safety engineer of an industrial plant is so universally recognized today that it needs no special emphasis. Such technical documents as safety codes, safety standards, and all other like technical publications, constitute perhaps the most important section of the safety engineer's library or 'tool box.' . . .

"As adopted, at any time, an ASA standard is but the concise interpretation, for the benefit of all, of what may be regarded as the best practice out of our accumulated knowledge and experience."

—From an address by **W. R. Smith,** Public Service Electric & Gas Company, before the Metropolitan Chapter of the American Society of Safety Engineers.

Lamb Gives Safety Talk

Henry G. Lamb, safety engineer of the ASA, spoke before the Maryland State-Wide Safety-Health Conference and Exhibit on "Progress Made in the Use of Color in Industry for Accident Prevention." The Conference, which was held under the auspices of the State Industrial Accident Commission and the management of the Department of Safety, was held in Baltimore on June 16-17.

International Standards Group Meets

Saint Leger Appointed New General Secretary

Henry Saint Leger was appointed general secretary of the new International Organization for Standardization (ISO) by unanimous action of the ISO Council at its meeting in Zurich, Switzerland, June 18. Mr Saint Leger is now serving as director of the Paris Branch of the U. S. Chief Consul for the Axis Criminality. He had taken a major part in organizing the Nurnberg trials and has had wide experience in international affairs. An American citizen born in Paris, he was educated in England and France and attended university in the United States.

Plans are now being made for opening the permanent office of the ISO in Geneva in the fall.

ISO Council Approves Affiliation Of IEC As Electrical Division

The International Electrotechnical Commission has decided to affiliate with the ISO as its electrical division, but will continue using the IEC name and technical procedure. A resolution to this effect presented by the IEC was approved by the Council. The operating arrangements worked out by a committee of both the IEC and ISO were approved by the ISO Council and will be considered by the Council of the IEC at its forthcoming meeting in October.

Representatives of the International Civil Aviation Organization, International Labor Organization, International Federation of Documentation, International Dairy Federation, and the United Nations Educational, Social, and Cultural Organization were present at the ISO meetings to discuss cooperation on standardization. The Council took unanimous action to appoint a joint committee with the International Civil Aviation Organization, the International Labor Organization, and the International Federation of Documentation to establish working arrangements for conducting joint programs.

Liaison arrangements were also made with the International Dairy Federation. The vice-president of the ISO was appointed liaison representative and it was agreed to exchange information on all matters of interest.

Conferences will be held with UNESCO to make recommendations on future relationships.

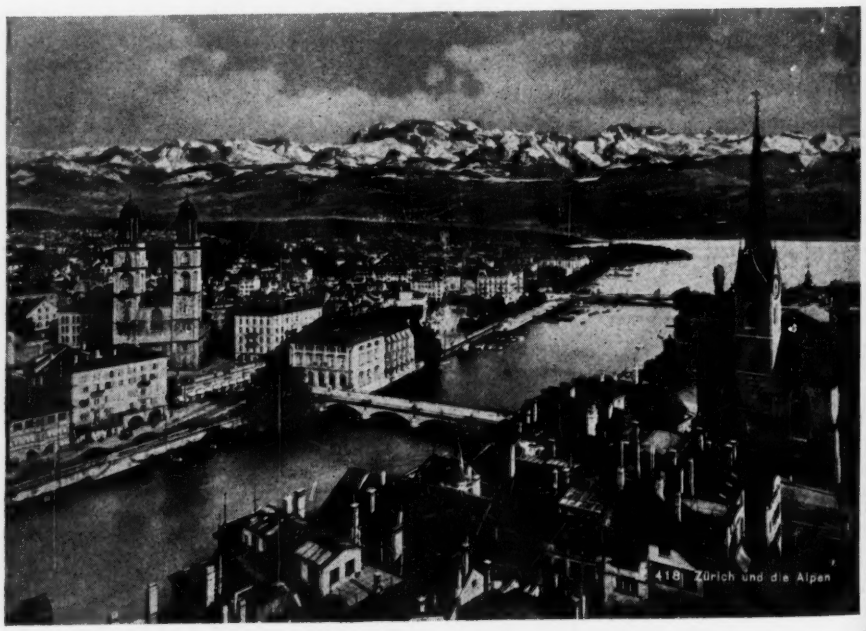
In opening the meetings of the ISO Council, Howard Coonley, president of the International Organization for Standardization and chairman of the Executive Committee of the American Standards Association, said:

"This movement and this meeting are of great significance to the reconstruction, the progress, and the future peace of the world. It is my conviction that the greatest assurance of permanent world peace can come from the unrestricted exchange of goods and services between the nations, great and small. Certainly no means can be more effective in achieving this goal than the establishment of sound and basic international standards in the fields of industry, commerce, and social behavior."

Mr Coonley urged the Council to dedicate its efforts to the advancement of industry and commerce throughout the world and thereby to raise the standard of living.

Canada, Chile, and Hungary were welcomed to membership in the International Organization for Standardization, bringing the total number of countries participating in the General Assembly of ISO to 26.

Final reports of the ISO meetings have not yet been received as this issue goes to press. A more complete statement concerning the technical work outlined by the Organization will be given in a forthcoming issue of INDUSTRIAL STANDARDIZATION.



Zurich, Switzerland—

Scene of the meeting of the International Organization for Standardization.

Mechanical Standards Committee Defines Committees' Scope; Enlarges Membership

Two additional organizations—the Anti-Friction Bearing Manufacturers Association and the National Screw Machine Products Association—have been invited to become members of the Mechanical Standards Committee, the correlating group which has responsibility for the work on mechanical standards of the American Standards Association.

At its meeting June 12, the Mechanical Standards Committee tentatively approved the scope of the reorganized Sectional Committee on Standardization of Dimensions of Ball and Roller Bearings and of the new Sectional Committee on Colors for Industrial Apparatus and Equipment as recommended by these committees (see page 184). A letter ballot will be taken before this action is complete.

It was reported that a subcommittee of the MSC, under the chairmanship of J. R. Townsend, met on May 2, to advise the MSC on further steps to be taken in regard to the proposed American Standard on Cast Iron Flanges and Flanged Fittings for Refrigerant Piping, Class 300, B16.16. The subcommittee voted to refer the proposed standard back to the Sectional Committee on Pipe Flanges and Fittings, B16, with recommendations for changes, and it is expected that the standard will be resubmitted in the near future.

During the war, an American War Standard Color Code for Lubrication of Machinery, Z47.1-1945, was published. In accordance with ASA procedure, a canvass has been made during the past year to determine industry's opinion as to whether this American War Standard should be continued as a regular American Standard, either in the same or in revised form, or whether it should be abolished. The canvass indicated comparatively little interest in continuing the present standard. Also, definite objection to it has been voiced by the American Petroleum Institute and the National Lubricating Grease Institute. Accordingly, the MSC decided to recommend to the ASA Board of Review that the American War Standard be abolished.

The Mechanical Standards Committee further decided to recommend that three obsolete American Standards on ball and roller bearings be withdrawn as proposed by the new Sectional Committee on Standardization of Dimensions of Ball and Roller Bearings, B3.

ASTM Elects Boyd President; Morrow New Vice-President

NEW officers for the 1947-48 season were elected at the Annual Meeting of the American Society for Testing Materials in June. Serving for the coming term will be T. A. Boyd, head of the fuel department, research laboratory division, General Motors Corporation, president; and J. G. Morrow, metallurgical engineer, Steel Company of Canada, Ltd, vice-president.

Mr Boyd has been with the General Motors Corporation since 1920 when the research division of Dayton Metal Products Company in which he was research chemist became a part of GM, forming the basis for its central research division. Since 1923, he has been head of the fuel department. Co-discoverer with Messrs Kettering and Midgley of the antiknock effects of the liquid compounds of lead, his principal subject of research has been automobile and aircraft fuels, and how to use them to best advantage. Out of these researches have come contributions of importance both to the automobile gasolines of the present and to the high-output aviation gasoline.

Mr Boyd has been a member of ASTM for many years. From 1931 to 1946, he was chairman of Committee D-2 on Petroleum Products and Lubricants, and he is still active in that committee work. In addition, he serves on Committee E-1 on Methods of Testing and the ASTM Detroit District Council.

In the American Standards Association, Mr Boyd represents ASTM on the sectional committee on Petroleum Products and Lubricants, Z11.

Mr Morrow's work with the Steel Company began in 1905 as chemist. Later, he was inspecting engineer and has been chief metallurgist and inspecting engineer for many years. He has been affiliated with ASTM since 1911. Especially concerned with work of ASTM Committee A-1 on Steel and Committee E-4 on Metallography, he serves on numerous A-1 subcommittees and is a member of its advisory group.

In Canada, Mr Morrow has rendered notable service in the work of the Canadian Standards Association of which he has been chairman for some time. During World War II, he gave technical advisory service to the Canadian Steel Comptroller and also served on committees of the U. S. War Production Board.

As a representative of the Canadian Standards Association, Mr Morrow is a member of the ASA Sectional Committee on Classification and Designation of Surface Qualities, B46.

ILO Plans 1948 Meeting On Factory Safety Code

A technical conference on safety provisions for factories is scheduled to meet early in 1948 in accordance with a decision made by the Governing Board of the International Labor Organization at its 101st session in Geneva.

The tripartite conference will be attended by safety experts representing governments, management, and labor. A model code for factories which it is formulating will be submitted direct to governments and is expected to be especially valuable in the rebuilding of factories destroyed by the war.

A convention on safety provisions for factories will also be drafted and will probably be submitted to an early session of the International Labor Conference.

Conference Board Reports on *Company Standards*

"WITH rising production costs and shifts from a buyer's to a seller's market, the importance of producing a better product at a lower cost is obvious. Standardization, of course, is no magic process by which competitive positions can suddenly be restored, production automatically raised, and costs dramatically lowered. It is a tool of management, however, that has a long-term record of accomplishments."

This is part of the Foreword to the most recent publication of the National Industrial Conference Board, "Industrial Standardization (Company Organization, Practices, and Procedures)." The report, No. 22 of the Conference Board's Studies in Business Policy, is the first formal postwar description of standardization in action. An earlier book, *Industrial Standardization*, prepared in 1929 by Robert A. Brady and published by the Board, contained a comprehensive discussion of standardization and has been widely recognized as one of the most authoritative documents on the subject. The new publication goes more deeply into the analysis and review of company standardization and presents an up-to-date discussion of the philosophy of standardization, the relation of company standardization to the work of national standards organizations, and government standardizing.

Individual Company Held Key Figure In Development of Standardization

"The key figure in the development and application of industrial standards is the individual company," the Board explains. For this reason, the report stresses company practices, organization, and procedures. Almost 100 companies were studied, and the standardization activities of 15 of them are reported in detail. These range from some of the largest organizations in the mass production industries, such as General Motors, General Electric, and Westinghouse Electric, to smaller companies such as the Stockham Pipe Fittings Company and the Gleason Works.

Although there has been some progress in the development of managerial standards, such as personnel procedures, accounting systems, distribution methods, and worker performance criteria, these are usually not the responsibility of the standards departments, the Board found. It has confined its report, therefore, to what it calls "technical standards" or those having to do with design, manufacturing, and procurement.

Surprisingly, only about one-third of the 93 companies covered by the report have formal standards organizations, and this proportion is probably higher than it would be for industry as a whole, since the companies included in the study were made up mainly from concerns which are particularly active in standardizing work. Those companies which do not have formal standards organizations handle their standardization activities through regular divisional and administrative channels rather than by setting up a special staff group for this work.

Copies of the 64-page report, "Industrial Standardization (Company Organization, Practices and Procedures)" can be obtained by companies associated with the National Industrial Conference Board, 247 Park Avenue, New York 17, at $1.50 each.

The standardization programs of 15 companies, listed below, are reviewed in the report:

Bell System
Chrysler Corporation
DeLaval Steam Turbine Company
Detroit Edison Company
Eastman Kodak Company
General Electric Company
General Motors Corporation
The Gleason Works
International Harvester Company
Radio Corporation of America—RCA Victor Division
John A. Roebling's Sons Company
Sperry Gyroscope Company
Stockham Pipe Fittings Company
Taylor Instrument Companies
Westinghouse Electric Corporation

Standardization Helps Coordinate and Reconcile Differing Interests

By focusing the attention of engineers, production men, purchasing officials, and sales executives on standards for design, purchase, and manufacturing, standardization helps greatly to reconcile the differing interests of these groups, the Board reports. Companies with strong standards organizations say that this coordination is one of the chief benefits of industrial standardizing.

"For example, designers frequently have a tendency to keep tolerances close," the report explains. "When the manufacturing men receive the drawing they may find that the expense and effort required to meet such a tolerance are exorbitant. It may turn out that the part in question does not require a finish of the specified tolerance. Meanwhile, much time and expense may have been involved. Effective standardization prevents this by establishing appropriate standard tolerances in line with performance requirements for product."

The analysis of the standardization programs of the 15 companies included in the report shows that the standardization activities of individual companies, their trade associations, national technical societies, and the national standards organizations are closely interrelated. For this reason, the report includes an analysis of the activities of the principal trade and engineering groups engaged in standardization, as well as some of the government's standardization activities.

The meaning and significance of

standardization, of company standards programs in general, the analysis of the 15 company standards programs, and the national standardizing organizations have been presented with many examples and illustrations and with specific reference to individual company problems and experiences.

By special permission of the National Industrial Conference Board, INDUSTRIAL STANDARDIZATION presents, below, the analysis of two of the company standards departments —one a large public utility company, the other a medium size manufacturing company—as given in the Conference Board report.

The Gleason Works

THE Gleason Works, a medium-sized machine tool builder, is located in Rochester, New York, and has been building bevel gear machinery for more than eighty years. The use of standards at the Gleason Works dates back to the early Twenties and since that time standardization has experienced steady growth and development.

Organization and Functions

The work of the standards group is carried on under the executive guidance of the engineering department heads, namely, the chief engineer, the executive engineers, and the chief design engineer. The actual responsibilities for carrying out the policies established in broad outline by the group are centered in the standards engineer. He reports to the chief engineer and devotes full time to standardization. He is assisted by two draftsmen and two tracers.

The functions of this group are to develop new standards; to keep up to date and revise existing standards; to disseminate standards to those using or directly affected by them; and to check on the application of these standards to the company's machine design.

Standards Used

Gleason Works standards cover design practice, component parts, and manufacturing techniques. The company has its own standards book of some 280 pages which includes sections on general design, drafting, lubrication, hydraulics, sheet metal fabricating, and electrical practice. Also, there are sections on component parts such as bearings, gears, and worms.

Establishment and Revision

Establishment of a new standard involves consultation with design men, the methods group (assembly methods, tool design, machinery methods, and fabricating methods), the production group, and the shop supervisory staff concerning their views and opinions. Outside sources of information are also checked in order to take full advantage of what others have done on a particular problem. Revisions of existing standards are handled in the same way with additional checks on tooling changes involved, stock parts affected, and the influence on procurement of purchased parts.

Outside Participation

The Gleason Works has several representatives actively engaged in the work of the American Standards Association through such sponsoring groups as the American Gear Manufacturers Association and the National Machine Tool Builders' Association. Wherever practical, Gleason Works standards are made to conform to those of the national standardizing bodies.

Standardization Applied

The following example demonstrates how the early use of standards has resulted in savings. Many years ago the need for a good automatic stop resulted in the design of such a unit. Because of the simplicity and ruggedness of this unit, the company has been able to apply it to almost every type of gear generator and gear grinder (approximately twenty-eight different machines) designed and built since that time. This has resulted in sizable savings through lower manufacturing costs, stocking and inventory costs, and handling costs.

The Detroit Edison Company

THE Detroit Edison Company operates in Detroit and Southeastern Michigan, serving an area of about 7,500 square miles. It provides electric service to the entire area, central heating in downtown Detroit, and gas to the territory adjacent to Port Huron.

Detroit Edison's program for standardization of materials has served as a model for many companies and this survey of company practices reflects the wide influence of its activities in this field. Copies of its Standards Catalog are on file in a large number of the leading industrial organizations and public utilities of the country.

Organization

The committee form of control was installed by the Detroit Edison Company from the start in the belief that this was the best way to gain wide management support and general acceptance of standardization. At policy level, the main committee, consisting of the vice-president in charge of engineering as chairman, the purchasing agent, and the general storekeeper, determines the general nature of the standards program.

At the outset the members of the policy group agreed that their objectives should be:

1. Establishment of a classification of all materials and equipment.
2. Use of a standard terminology in the description of all materials.
3. Establishment of adequate specifications.
4. Reduction in the number of different items purchased and used by the elimination of superfluous types and sizes.
5. Coordination of decisions with ASA and other national standards.

At the time the program was set up in 1927 a classification subcommittee was selected to devise a suitable breakdown for all materials and equipment that would avoid duplication of items in more than one cate-

gory. At the same time, a scope subcommittee, made up of various operating division heads, looked into the question of what materials could justifiably be standardized. Of the sixty-five main classes of materials and equipment, it was decided that thirty-eight of them offered sufficient possibilities for savings to justify intensive study. To investigate these thirty-eight classes, eighteen subcommittees were appointed by the main committee, and consisted of representatives from stores, purchasing, engineering, and the using departments. In general, the committees were kept small, averaging seven members. However, all interested parties were called upon for advice and suggestions whether or not their department had a representative on the subcommittee. Thus, all responsible individuals had an active part in the standardization program and since they were interested in standardization, they have been more cooperative in following through in the use of standard materials and in reaping the benefits of the program.

The subcommittees were furnished a complete list of items in a given class which had been purchased in a twelve-month period. This list, prepared by the purchasing department, included the terminology as it appeared on the purchase orders, quantities, users, frequency of purchase, prices, and similar pertinent data. With this information, the subcommittees set about:

1. Eliminating unnecessary types and sizes, *i.e.*, making one item serve several purposes.
2. Eliminating duplication. Several different items may be used for the same purpose by different departments and while good results may be had from any of them, all but one could just as well be eliminated from stock. If none were stocked previously, it probably would be desirable to stock the one selected.
3. Eliminating obsolete materials and items made to special design by replacing these with national or industry standards.
4. Recommending substitutes which make for better construction or lower cost.
5. Writing new specifications where necessary.
6. Setting up standard terminology for all items which results in considerable difficulty being eliminated in the procurement and supply of material.

All of these steps were considered in conjunction with existing ASA, national, and manufacturers' standards, so as to obtain lower ultimate cost, quicker deliveries, and often a better product.

The results of these studies are made available to all requisitioners by means of a standards catalog. It lists both stock and nonstock standard items and useful informattion regarding them.

Revisions

As a means of keeping standards up to date, each subcommittee periodically reviews the purchases of all items in the class assigned to it.

The information of materials examined by the committee is similar to that for the original standardization program, except that it is grouped into nonstandard items and standard items not being used. The nonstandard items are possible candidates for addition to the standards; the infrequently used standard items are possibilities for elimination. For the period between reviews, an informal routine has been devised for adding to or eliminating an item from the standards. The department wishing to make the change requests the Standards Group of the Purchasing Department to initiate a standards approval sheet. This contains a description of the item, its uses, what it replaces, and other pertinent data. It is circulated for approval to every one in the company who might be interested.

Standing Committees

Constant surveillance and review are the lifeblood of a standardization program. In order to keep Detroit Edison standards up to date, twenty-one standing committees are held responsible for appraising and examining the old standards as well as considering requests for new ones. The current listing shows the following subcommittees:

No.	*Name*
1	Pipe and fittings
2	Wire and cable
3	Building materials
4	Classification
5	Packing
6	Tools
7	Carbon brushes
8	Relays and insulators
9	Firebrick
10	Stokers
11	Chemicals
12	Fasteners
13	Publishing
14	Wiring supplies
15	Lamps
16	Stationery
17	Instruments
18	Scope
19	Overhead lines material
20	Communication equipment
21	Heat insulation

Enforcement

Enforcement of standardization has not been a problem, according to the company, primarily because of the committee organization of the program. Since every department and group has a voice in the formulation of the standards they readily accept the standards as their own creation rather than something which is being forced on them.

The actual working out of enforcement rests upon the purchasing department. The buyers are governed by these considerations:

Complete elimination of the purchase and use of nonstandard items is not desirable but their indiscriminate use should be eliminated.

A requisitioner should not have to wait for committee action before procuring a nonstandard item. New materials and methods should be continually tried so as to keep the company up to date.

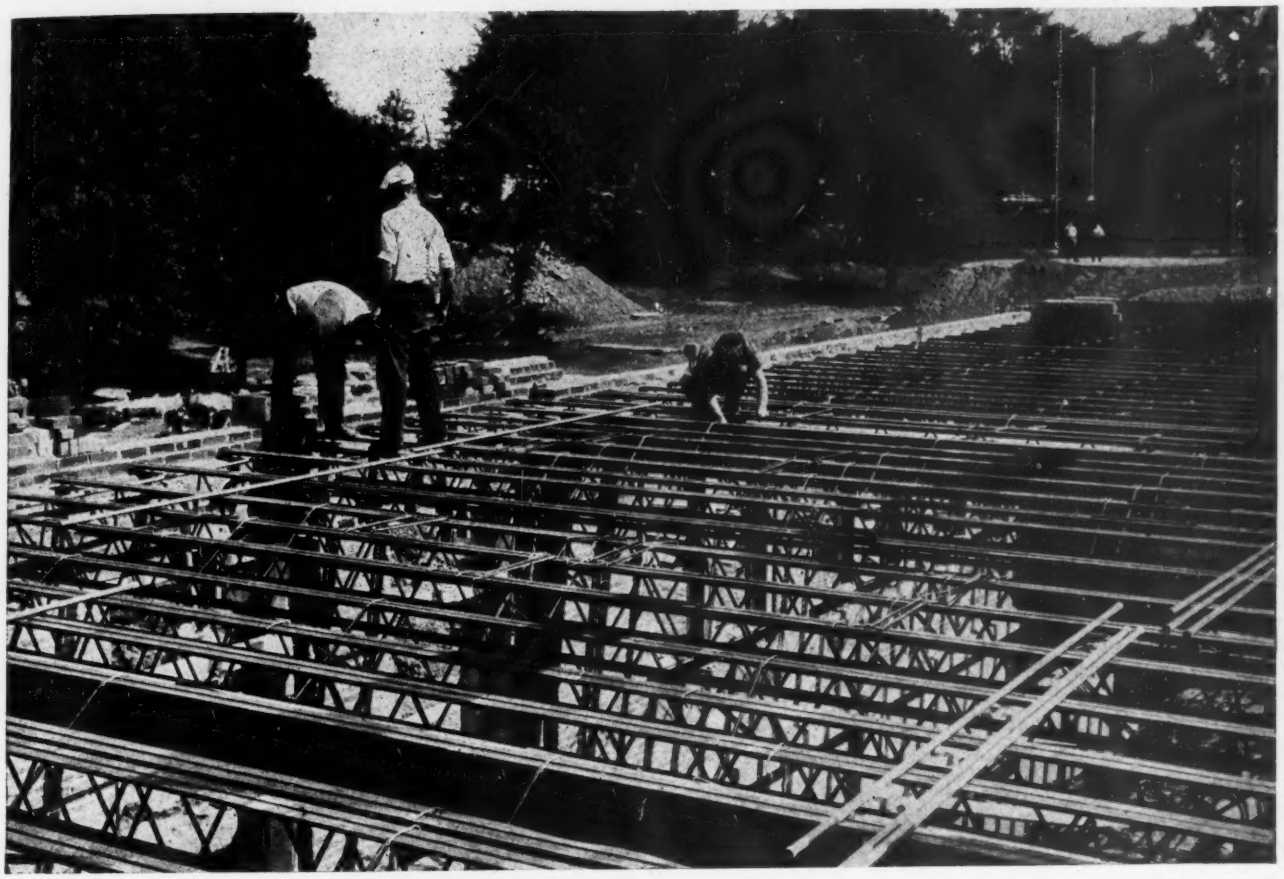
Purchase of Nonstandard Items Reviewed

Before purchasing nonstandard items, buyers check with the requisitioner those items which, in their opinion, should be questioned. If they are satisfied with the reason for the purchase, it is made. If not, the question is carried to the head of the requisitioning department. Then, if it is desirable to purchase the item, the purchase is made, the proper subcommittee is informed, and it investigates further. Also, the subcommittees periodically review the nonstandard purchases, both as a check on the buyer and to review items which perhaps should be made standard.

ASTM Sets Up Committee on Antifreezes

The organization meeting of a new committee on engine antifreezes to be known as D-15 was held under the auspices of the American Society for Testing Materials on May 26, 1947.

New Building Standard Provides for



Light Weight Flooring

By S. H. Burgess

Managing Director, Steel Joist Institute

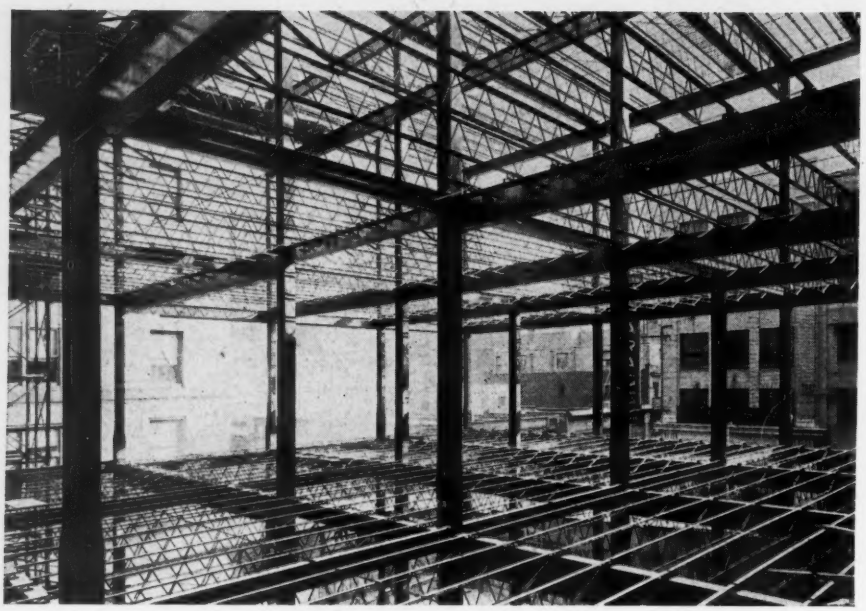
THE approval of the American Standard Building Code Requirements for Steel Joist Construction, A87.1-1947, is significant in that for the first tme the American Standards Association has given its official approval to a standard covering light-weight floor construction.

The standard was developed by an American Standards Association committee sponsored by the American Iron and Steel Institute, and the American Society of Civil Engineers. It is intended for use by municipal and state building officials as a means of increasing uniformity in building code requirements; and because it is a complete specification on Steel Joist Construction, it should also be useful to architects and engineers.

The approval is particularly significant at this time as it recognizes a type of construction whch lends itself especially well for use in the fire-resistive types of building construction. It is quickly and easily erected; and its use makes it possible for fire-resistive buildings to be constructed without the owner having to assume the burden of paying for construction materials on a project which are not actually incorporated into the building. The steel joists themselves act as a support for the metal lath form which is used as reinforcement for the top concrete slab, and ceiling lath may be appled directly to their bottom chords, thus eliminating the necessity for furring channels.

The lightness of steel joisted floor systems also helps to provide economies in the design of the structural frame of buildings, making it possible to effect economies in the size of framing members. Its economies are even reflected in the design of foun-

Above—Each joist is complete, stable, and independent. As many portions as desired may be erected simultaneously.



As joists are erected and bridged a working platform is made for structures above allowing allied trades to follow up at once, thus expediting completion.

dations of projects, due to the saving in dead weight of the construction.

Historical

For many years, engineers and builders have been seeking a practical means of obtaining light-weight floors and roofs which will provide a very high degree of fire-resistiveness, which is lighter and less costly than other types of construction.

In 1855 the first light structural members were used in building the State of New York Bank in New York City. These joists were cold-formed from iron sheets 1/16 in. and 1/8 in. thick with webs and flanges riveted together. They were still functioning satisfactorily in 1903—nearly 50 years later—when the structure was demolished to make way for a more modern building. Similar joists were used in various important buildings around Chicago, St. Louis, and Minneapolis before 1905.

In 1908, quantity production of formed steel joists was started. They were made of 16-gage sheets formed into channels and welded back to back, giving the appearance of light I-beam sections. Later a structural section consisting of a strip steel web and four light angles assembled by means of spot welds into the form of a girder made its appearance.

By 1920, architects, engineers, building officials, and insurance rating bureaus were recognizing and adopting this type of construction as standard.

In the year 1923 the first open web joist made its appearance. It was produced in the form of a Warren truss in which the chords consisted of two round bars and the web of a single continuous bent bar. Assembly was accomplished by means of electric arc welding. The chords and webs were made of considerably sturdier sections than those found in pressed steel joists, with little or no increase in the weight of material used. The bearing ends were made 2½ in. deep in all cases by bending up the bottom chords near the supports. Open web joists were thereby made inherently stable against overturning, resulting in more speedy and less costly erection. While this type of end bearing is still considered standard, some manufacturers of open web joists are now producing joists of other designs, to accommodate special job conditions. The use of open web steel joists permits ready passage of pipes and conduits through the openings in all directions, thus providing concealment at little or no added cost.

The design of steel joists has been constantly developed and improved since their first introduction. Both solid web and open web steel joists are being manufactured. Open web joists are now made by expanding and forming one piece of metal into open web joists, and by assembling several pieces of metal into a joist by welding. Some manufacturers use fusion welding, others resistance welding.

Each type has its own inherent advantages. The American Standard Building Code Requirements for Steel Joist Construction, A87.1-1947, provides for the use of both solid web and open web joists.

Fire-Resistance of Steel Joist Construction

In the early days of steel joist construction, few data were available regarding severity of fire hazards or methods and materials for fireproofing. Building codes and officials required fireproof buildings, and 3-hour or 4-hour fire resistance, without taking cognizance of the degree of fire risk involved in a building's occupancy or use.

Recent investigation, however, throws more light on the subject. As a result of fire test determinations made at the National Bureau of Standards, it is now possible to express with a reasonable degree of accuracy the severity of fire hazard. This is represented by a given weight of a combustible material in terms of the equivalent fire exposure according to the ASTM and American Standard fire test specifications. The Bureau performed burnout tests with various concentrations of combustible materials having a calorific value in the range of wood and paper, so assembled as to represent building occupancies. The tests show that the relation between the amount of combustibles present and the severity of the fire is approximately as follows:

Average weight of combustibles, Pounds per square foot of floor area	*Fire Severity, Hours*
5	½
7½	¾
10	1
15	1½
20	2
30	3
40	4½
50	6
60	7½

In buildings such as apartments, hotels, schools, hospitals, offices, residences, and similar structures having incombustible walls, partitions, and floor construction, the total weight of combustible floor finish, trim, doors, windows, and furnishings, as determined from actual surveys,

varies from an average of from 5 to 10 lb per sq ft in apartments to 10 to 15 lb per sq ft in offices. Grouping all such buildings in the class of light occupancies, it is evident that adequate protection against fire hazard is provided when the construction will safely undergo a standard 1½-hour fire test.

Tests have demonstrated that floor and roof construction composed of steel joists, a 2-in. concrete floor slab, and a metal lath and plaster ceiling (¾ in. gypsum or portland cement plaster) attached directly to the underside of steel joists will safely withstand 1½-hour fire test exposure as prescribed in the American Standard Fire Tests of Building Construction and Material, A2.1-1942.

In buildings used for certain types of occupancies where the fire risk is higher, a greater fire-resistive rating than 1½ hours is required. Tests by the National Bureau of Standards have demonstrated that such ratings can be assigned to steel joist construction when protected with slightly thicker concrete slabs on top of the joists, and with gypsum or gypsum-vermiculite plaster ceilings of appropriate thickness below. The various fire-resistive ratings of steel joist construction can be found in *Building Materials and Structures Report BMS-92*, of the National Bureau of Standards. Ratings also will be incorporated in the forthcoming American Standard Building Code Requirements for Fire Protection and Fire Resistance which is still under preparation by the committee.

Steel joisted fire-resistive construction has rapidly expanded its field of usefulness to a point where many million square feet of floors and roofs are being installed annually. It is exhibiting definite advantages and has established a real place for itself in the building industry.

The American Standard Building Code Requirements provide for the use of steel joist construction in buildings of all occupancies. It makes no restrictions insofar as the live loads that may be carried on this type of construction are concerned (for recommended minimum design loads see American Standard Building Code Requirements for Minimum Designs Loads, A58.1-1945). It also makes provision for the use of steel joists at spacings sufficiently wide to be used as roof purlins.

The standard provides for the use of sections rolled from cold furred strip and sheet in the manufacture of steel joists as well as the use of hot rolled sections.

It also provides for the use of nailer joists, with or without wood strip attached.

Although steel joists were developed primarily to provide a rigid, fire-resistive, durable, and relatively light floor construction, their use offers other marked advantages:

For example, steel joists are completely standardized as to lengths, depths, and carrying capacities. They are completely shop fabricated. They reach the job site tagged and ready for immediate placing, needing only to be hoisted into their proper place and to be attached to supporting members.

The joists can be placed immediately after the main supporting members are erected and, if desired, walls can be built up to the succeeding stories and the entire structure closed in before the concrete slabs are poured.

The lightness of steel joist floor construction permits the use of lighter framing and footings. It is often possible to add one or two additional stories to completed buildings without altering the old columns and footings.

Where bad soil conditions are encountered, the lightness of steel joist construction makes its use particularly desirable.

Standardization of Loading Tables

In conjunction with the U.S. Department of Commerce, the Steel Joist Institute has effected a complete standardization of a full range of open web joists, by adopting Simplified Practice Recommendation R94-30. This recommendation shows the properties and allowable total loads in pounds per linear foot of open web steel joists and is the Official Loading Table for the Steel Joist Institute. It appears in the Institute's official Handbook, the latest issue of which is dated 1946.

The specification for steel joist construction of the Steel Joist Institute, which formed the basis on which ASA Committee A87 began its deliberations on the new American Standard, was originally prepared by

Copies of the Handbook of the Steel Joist Institute which contains the standard loading tables can be obtained gratis by addressing a request to the Institute, 3709 24th Street, N. E., Washington 18, D. C. (After October 1, this address will be changed to Ring Building, 1200 18th Street, N. W., Washington, D. C.)

The American Standard Building Code Requirements for Steel Joist Construction was developed by an ASA committee sponsored by the American Iron and Steel Institute and the American Society of Civil Engineers. It includes sections on scope and definitions; requirements for the material; allowable stresses and methods of design; connections; span; spacing of the steel joists; loading; deflection; safety factor; decks and top slabs; erection; and bridging.

The members of the committee that developed the new standard are:

American Institute of Architects, *Andre Halasz*
American Institute of Bolt, Nut and Rivet Manufacturers, *W. C. Stewart*
American Institute of Steel Construction, Inc, *vacant*
American Iron and Steel Institute, *B. L. Wood*
American Society of Civil Engineers, *Clyde T. Morris*
American Society for Testing Materials, *H. H. Morgan*
American Welding Society, *T. R. Higgins*
Associated General Contractors of America, Inc, *E. Marshall Rust*
Building Officials' Conference of America, Inc, *John W. Oehmann; Albert H. Baum (alternate)*
Federal Works Agency, Public Buildings Administration, *Charles W. Barber*
U. S. Department of Commerce, National Bureau of Standards, *H. L. Whittemore*
National Electrical Manufacturers Association, *J. B. Tinnon*
Pacific Coast Building Officials' Conference, *Hal Colling*
Steel Joist Institute, *S. H. Burgess*
U. S. War Department, *Homer Carey*
Members-at-Large, *J. L. Edwards; H. W. Hanly; C. A. Willson*
Ex Officio, *George N. Thompson, Chairman, BCCC; Walker S. Lee, Vice-Chairman, BCCC; J. H. Courtney, Technical Secretary, BCCC.*

Copies of the American Standard Building Code Requirements for Steel Joist Construction, A87.1-1947, can be obtained from the American Standards Association at 35 cents.

Frank Burton, the well-known consulting engineer, one-time Building Commissioner of Detroit, and Past President of the Building Officials' Conference of America. The original Institute specification was modified in 1929, 1941, and 1946.

With the approval of the American Standard Building Code Requirements for Steel Joist Construction, A87.1-1947, the requirements already set up by the Steel Joist Institute have been brought into the American Standard building code series and have been given acceptance by representative national engineering organizations identified with the committee.

Report Increased Use of Building Coordination

Ever-increasing use of the principles of modular coordination of building materials and equipment is continually being reported. Most recent application comes from the federal government which has just adopted modular design and products for the Veterans' Hospital Program.

In addition, recognition of the necessity for continuing the basic research involved in this project (which is under the direction of the American Standards Association's Sectional Committee on Coordination of Dimensions of Building Materials and Equipment, A62) has resulted in the grant of a contract to the Modular Service Association by the Office of Technical Services, Industrial Research and Development Division, U.S. Department of Commerce. The MSA is a nonprofit service organization which provides technical and secretarial assistance to ASA Project A62. Its new contract is to support and expand this research.

SHEET LABELS

Now Furnish Much Useful Information

Several interesting postwar developments in labeling of sheets have been noted recently, particularly in the amount of useful information for consumers which is now provided on labels.

Sheet manufacturers have obviously realized the selling power of a label that promotes their product by stating its qualities, and consumers are thus being educated to seek these facts in order to buy wisely.

Master Outline Is Guide for Informative Labels for Consumers

To provide a basis for intelligent choice, the National Consumer-Retailer Council's booklet, *Informative Labeling*, shows a Master Label Outline, which suggests six points that should be covered to give the consumer the information he wants about the product. They are:

(a) What it will do (performance)
(b) What it is made of (composition)
(c) How it is made (construction)
(d) How to care for it
(e) Recommended uses
(f) Name of manufacturer or distributor

Among the sheet manufacturers that are now following these suggestions for labeling, the Pepperell Manufacturing Company uses its collapsible box package for individual sheets to give this information. Printed on the back of the box is a "Buy Guide" which lists the characteristics of the sheet enclosed. Among the qualities given are the fibre content, thread count, weight, finishing materials, breaking strength, and best methods of caring for sheets. In addition, general rules for selecting sheets, correct sheet sizes, and number of sheets per bed are included among the data for consumers. The label attached to the sheet directly merely gives the size before hemming.

Essential Characteristics of Sheets Described on Pacific, Cannon Labels

The Pacific Mills "Facbook" and Cannon Mills labels, too, are of the type suggested by the National Consumer-Retailer Council. They also give the shrinkage percentage of the sheet, as well as the major characteristics given by Pepperell. The label on the Pequot Mills sheets provides much of the same essential information.

Most of the labels state that the sheets conform to government specifications. Until national standards for durability, shrinkage, thread count, tensile strength, and other characteristics of the different types of sheets are established, these informative labels give the facts the consumer wants to know by describing and interpreting the characteristics as completely and concisely as possible.

Asks Critical Review Of Aeronautical Standardization

"Standardization efforts in the aeronautical field of both Government and industry today are far more costly and complicated than they should be," Major General Oliver P. Echols, president of the Aircraft Industries Association, told the first postwar Joint Army-Navy-Industry Conference on Standardization and Simplification of Bulk Material in Aircraft, held May 8 and 9 in Philadelphia.

These standardization efforts are confused by a lack of straightforward policy and organization and by considerable overlapping and duplication of responsibility, General Echols declared. "I believe that we have reached a point where we must critically review the entire aeronautical standardization picture to find better methods of accomplishing our purposes with far less expense and red tape," he said.

"Government agencies could and should point out needs, sponsor ideas, and otherwise stimulate the development of standards, but government cannot efficiently create standards without industry's technical know-how," General Echols declared.

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WHAT SERVICE IT WILL GIVE
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6. PROJECTING SIZE INDEX TABS—an exclusive Pequot patented feature—enable quick selection of correct size sheet from linen shelf.
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Revisions Announced For NEMA Motor Standards

National Electrical Manufacturers Association Motor and Generator Standards, Publication No. 45-102, has recently been revised for the second time. Standards of particular interest cover the new "D" flange, the resistance method of temperature determination, integral-horsepower hermetic motors, and small-power motors for special applications.

The dimensions of the new NEMA "D" flange for integral-horsepower motors built in frames 203 to 505 are given. Five "D" flanges accommodate the spread of the sixteen different NEMA standardized motor frame sizes.

The resistance method of temperature determination for large- and small-power a-c motors, single phase and polyphase, is now recognized as an optional method of temperature determination, and the applicable standards in the publication have been revised accordingly.

A new standard has been added covering the dimensions of integral hermetic motors for hermetic refrigeration compressors. Additional standards are now in the process of being developed for these motors.

Purchasers of the NEMA Motor and Generator Standards, Publication No. 45-102 (price $4.00), which includes all NEMA standards issued for motors and generators, will receive all revisions issued to this edition of the standard without charge until further notice. A separate publication excerpting the small-power motor standards included in Publication No. 45-102 is in the process of beng printed, and orders are now being accepted.

Gear Manufacturers Name Officers

New officers of the American Gear Manufacturers Association were elected at its 31st annual meeting in June. R. B. Tripp, executive vice-president of the Ohio Forge and Machine Corporation of Cleveland, is president; W. L. Schneider, vice-president, The Falk Corporation, Milwaukee, Wisconsin, and F. W. Walker, vice-president, Philadelphia Gear Works, Inc, are vice-president and treasurer, respectively.

Weber, Miner Elected To Head Safety Group

W. F. WEBER, hazards engineer of the Western Electric Company, Kearny, New Jersey, was named chairman of the Safety Code Correlating Committee of the American Standards Association at its meeting May 22. The committee is the coordinating committee in charge of the work on national safety standards of the Association. Mr Weber, who has been a member of the committee since 1944, is well known in national safety work as a member of the American Society of Safety Engineers and of the American Industrial Hygiene Association. He has held important posts in the New Jersey chapters of both organizations in addition to serving as a member of the National Executive Committee of the American Society of Safety Engineers.

W. F. Weber

H. L. Miner

Mr Weber was named vice-chairman of the Safety Code Correlating Committee in 1946. As chairman he now succeeds W. R. Smith, safety engineer, Electric Department, Public Service Electric & Gas Company, who had served as chairman of the committee for four terms.

H. L. Miner, manager of the Safety and Fire Protection Division Service Department, E. I. duPont de Nemours & Co, Inc, was named vice-chairman by the Safety Code Correlating Committee.

Mr Miner has been active in fire prevention and safety since 1906, and is coauthor of a book on the subject. He is a past president of the National Fire Protection Association; has been vice-president of Home and Farm Safety of the National Safety Council; general chairman of the chemical section, and a member of the Executive Board of the National Safety Council for 1943-1947. He is chairman of the Flammable Materials Committee of the Plastic Materials Manufacturers Association, and of the Safety Committee of the National Paint, Varnish, and Lacquer Association. He is a member of the Safety Committee of the Manufacturing Chemists' Association, and a member of the Secretary of Labor's Advisory Committee on Safety and Health Requirements of the U. S. Department of Labor.

Mr Miner, who has worked on many of the technical committees of the American Standards Association, represents both the National Fire Protection Association and the Manufacturing Chemists Association on the Safety Code Correlating Committee.

Members of the Committee's Executive Committee for the coming year are:

John A. Dickinson, chief, Section of Safety Codes and assistant chief, Division of Codes and Specifications, National Bureau of Standards, U.S. Department of Commerce, Washington, D. C.

Gerard O. Griffin, safety director, Dravo Corporation, Neville Island Branch, Pittsburgh, Pennsylvania, representing Association of General Contractors

John M. Roche, manager, Industrial Division, National Safety Council, Chicago, Illinois

J. J. Zeitner, supervising engineer, Ocean Accident and Guarantee Corporation, New York, representing the American Society of Mechanical Engineers

W. R. Smith, safety engineer, Electric Department, Public Service Electric and Gas Company, Newark, New Jersey, representing Electric Light and Power Group

The members of the Safety Code Correlating Committee heard with regret that Walter S. Paine, an active member of the committee since 1930, had died recently. Mr Paine had not only been a member of the SCCC but also a member of the Standards Council. He had been nominated as a member of the Executive Committee of the SCCC for the coming year. The committee voted the following resolution expressing its regret over Mr Paine's loss and its appreciation for the years of work he had put into the safety code program:

> WHEREAS, The Safety Code Correlating Committee of the American Standards Association has learned with deep regret of the passing on March 8, 1947, of our associate, Mr Walter S. Paine; therefore be it
>
> *Resolved*, That in the death of Walter S. Paine, manager of the Engineering and Inspection Department of the Aetna Casualty & Surety Company, Hartford, Conn, the American Standards Association has sustained a distinct loss. Mr Paine had not only served on the Standards Council, but had served on the Safety Code Correlating Committee since 1930. From 1930 to 1932, and from 1937 to the time of his death, he had represented the National Conservation Bureau, and from 1933 to 1937 he had represented the National Safety Council. He had been chairman of the SCCC from 1940 to 1942 inclusive, and had been a member of its Executive Committee continuously since 1938. He had also taken a very active part in the technical work of the ASA, particularly its safety code program, and had participated in the work of at least 18 sectional committees.

The Federal Interdepartmental Safety Council was accepted as a new member of the Safety Code Correlating Committee.

As the result of a request from the Canadian Standards Association, the Safety Code Correlating Committee invited the CSA to appoint a liaison representative to help keep the safety practices of Canada and the United States in line with each other. CSA had suggested that Dr Kingsley Kay, chief, Industrial Health Laboratories, Department of Health and Welfare

of Canada, be appointed to act as its representative.

Questions concerning the organization of two new safety code committees were sent to letter ballot of the entire Safety Code Correlating Committee. The committee is being asked to vote on whether a new project on Safety Code for Industrial Power Trucks should be initiated, and whether the National Safety Council should be invited to serve as sponsor for the new peacetime project on Safety Color Code. Both actions were recommended by those present at the meeting.

Metal Lath Association Is ASA Associate Member

The Metal Lath Manufacturers Association, which has recently become an Associate Member of the American Standards Association, is a technical organization serving the specialized interests of its industry.

Among its many functions, it aids engineers and architects on special problems of design with metal lath construction, and analyzes and reviews proposed building codes to assist in providing requirements that will encourage the correct use of metal lath construction.

Most recent of its booklets is "Metal Lath Specifications for Better Plastering and Concrete Stucco" which was revised in 1946. The preparation of specifications for the use of its material is one of the most important undertakings of the Association. Representing the industry, it serves on technical committees of such organizations as the American Society for Testing Materials, building officials organizations, and the American Standards Association. In its relationship with the ASA, the Metal Lath Manufacturers Association is concerned primarily with the work of the sectional committees on plastering, A42, and coordination of building materials and equipment, A62.

Officers of the Metal Lath Manufacturers Association are:

C. M. Cooper, president, Bostwick Steel Lath Company, *President;*

A. V. Spinosa, executive vice-president, Penn Metal Company, *Vice-President;*

Donald R. Wadle, Metal Lath Manufacturers Association, *Commissioner.*

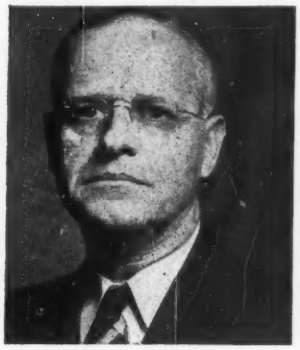
New Appointments to Standards Council

The following new appointments have been made by Member-Bodies of the American Standards Association to the Standards Council, the top group in charge of all the technical work of the Association:

W. Dean Keefer

National Safety Council—

W. Dean Keefer, vice-president, Lumbermen's Mutual Casualty Company, who succeeds the late Walter S. Paine for his unexpired term ending December, 1949. Mr Keefer is a very active participant in ASA affairs. He has served on numerous sectional and administrative committees, as well as the Mining Standardization Correlating Committee, the Safety Code Correlating Committee, and the Building Code Correlating Committee. At present he is a member of the ASA Sectional Committee on Methods of Recording and Compiling Accident Statistics, Z16.



F. W. Reynolds

U. S. Department of Commerce—

F. W. Reynolds, chief, Division of Trade Standards, National Bureau of Standards, alternate. He now serves on the ASA Sectional Committee on Principles Underlying Valid Certification and Labeling of Commodities, Z34.

New Company Members of ASA

The following companies and individuals, through their participation in and financial support of the American Standards Association, now have an active part in the national standardization program:

Acheson Manufacturing Company, Rankin, Pennsylvania

The Anderson Company, Gary, Indiana

Barron-Gray Packing Company, San Jose, California

The Belknap Manufacturing Company, Bridgeport, Connecticut

Bowen Products Corporation, Ecorse, Michigan

Burnham & Morrill Company, Inc, Portland, Maine

The Columbus Auto Parts Company, Columbus, Ohio

Darling Valve & Manufacturing Company, Williamsport, Pennsylvania

E. M. Dart Manufacturing Company, Providence, Rhode Island

Detroit Brass & Malleable Works, Detroit, Michigan

Federal Mogul Corporation, Detroit, Michigan

Firestone Steel Products Division of the Firestone Tire and Rubber Company, Akron, Ohio

The G & O Manufacturing Company, New Haven, Connecticut

Industrial Wire Cloth Products Corporation, Wayne, Michigan

F. L. Jacobs Company, Detroit, Michigan

Kuhns Brothers Company, Dayton, Ohio

Merchants Distilling Corporation, Terre Haute, Indiana

Northern Indiana Brass Company, Elkhart, Indiana

Omaha Public Power District, Omaha, Nebraska

Perfect Circle Corporation, Richmond, Indiana

Pheoll Manufacturing Company, Chicago, Illinois

Pittsburgh Valve & Fittings Corporation, Barberton, Ohio

Pomona Products Company, Griffin, Georgia

The William Powell Company, Cincinnati, Ohio

Semler Company, Jeanette, Pennsylvania

Sterling Aluminum Products, Inc, St. Louis, Missouri

Shakespere Products Company, Kalamazoo, Michigan

William Underwood Company, Watertown, Massachusetts

Union Malleable Manufacturing Company, Ashland, Ohio

United Specialties Company, Chicago, Illinois

J. P. Ward Foundries, Inc, Blossburg, Pennsylvania

R. D. Wood Company, Philadelphia, Pennsylvania

News from other countries

New Standards Group of India Holds First Meeting

THE inaugural meeting of the General Council of the newly organized Indian Standards Institution was held at New Delhi on January 6, 1947. Emphasizing the values and importance of standardization to India, the Honorable Dr John Matthai, Minister for Industries and Supplies Department, Government of India, and president of the General Council, gave the welcoming address.

"There is no doubt that the Indian Standards Institution will have far-reaching effects on industry generally," he said. "In the first place, the adoption and enforcement of standards will mean the raising of the level of efficiency in manufacturing processes. Secondly, prescribing standards for the products of industries has necessarily the effect of giving those who purchase them a sense of confidence regarding their quality. From the point of view of marketing, the prescription of standards and their enforcement would greatly help the position of industries."

Continuing, Dr Matthai pointed out that, until the establishment of this group, India had depended on the standards set by the United States and Great Britain. He felt it much more beneficial for India to draw up its own standards with reference to its raw materials, particular conditions of work, and the requirements of Indian consumers.

The Institution, as it has now been organized, consists of five divisions dealing with engineering, building, textiles, chemicals, and food and agriculture. For the time being, it is expected that most activity will be concerned with engineering and textiles. As more experience is accumulated, however, work will be extended to cover the other divisions as well.

Financial support will come from both government and industry.

Austrian Standardizing Body Now on Peacetime Basis

THE Austrian standardizing body, which ceased to function in April 1938 when Hitler incorporated Austria into the Third Reich, has, almost two years after V-E Day, published its first postwar bulletin. Dated January 31, 1947 and marked "Year 1, No. 1," the bulletin briefly outlines the immediate program confronting the organization. The task ahead is a big one. German standards and German practice have deeply penetrated into Austrian industry, as a result of the fact that the character of the Austrian standardizing procedure was replaced during the war by the German standardizing organization. Where Austrian standards had been based on free voluntary cooperation of producers, consumers, and public authorities, with the arrival of the Germans these standards became orders imposed by the new government upon both industry and the public.

An immediate switch from wartime German standards back to the former Austrian standards is obviously impossible. It requires a very careful study of the relative merits of each group of standards before anything definite is decided. This is what is being done at the present time by about 40 technical committees. So far, about 50 Austrian standards have been reinstated and about 6 new standards have been approved, according to the bulletin.

Perucca Heads New Italian Association

The Italian Standards Association has recently been reorganized in the form of a federal association "in order to accord it broader and more flexible lines to meet the growing needs of standardization . . ."

Formerly known as the "Ente Nazionale per l'Unificazione nell'Industria—UNI," the new organization assumes the name of the "Ente Italiano di Unificazione—UNI." It will serve as the central bureau for coordinating the standardization activities in Italy and will act as the national Italian body for international cooperation in standardization work. Professor Dr Eligio Perucca, director of the Instituto di Fisica Sperimertale del Politecnico di Torino, is the first president of the reorganized association, and Dr Ing Carlo Rossi is the director.

British Retail Association Again Takes Up Standards

By Roger Diplock

Roger Diplock is the new secretary of the Retail Trading-Standards Association, London, England. During the war he was army liaison officer successively to the 321st U. S. Fighter-Bomber Group and the 319th U. S. Medium Bomber Group in the Mediterranean. The Retail Trading-Standards Association was publisher of the *Intelligent Woman's Guide to Shopping* mentioned by Mrs Carol Willis Moffett in her article, "What the Consumer Wants in Standardization," INDUSTRIAL STANDARDIZATION, January, 1947. The Association's testing laboratory is affiliated with the Better Fabrics Testing Bureau of New York.

THE end of World War II found British retail trade facing near-crisis in one very important aspect. Only the keenest and best-trained merchandise managers and departmental buyers had more than a fleeting idea as to the material content of the goods that were being handled. This particularly applied to textile goods and was largely brought about by the imperative need during and after the war for manufacturers to make shift with what raw materials they could lay their hands on. Add to that the usual postwar shortages of almost everything needed by the civilian population and it becomes apparent that from the point of view of the immediate future it did not matter very much what anything might be made of. Provided that it held together as long as it was on show, it was an automatic sale.

British Public Becomes More Discriminating In Its Purchases

Fortunately there were a good number of responsible retailers—as well as manufacturers—who realized that for the more distant outlook this happy-go-lucky attitude of the "sellers' market" was potentially dangerous for both retailer and manufacturer alike. Already, within a year of the end of hostilities, the British public were beginning to get a little more "choosey" in their purchases. They were beginning to remember that they had been brought up rather in a tradition of well-made and lasting garments and merchandise and they were getting tired of having to buy rubbish.

But the turnover from outright "sellers' market" to a limited "buyers' market" was only one of the important problems confronting leaders of the retail trade. There was a genuine ignorance among retail personnel about the merchandise they were handling. This ignorance was due to two main causes. First, new fibres—synthetic and semisynthetic—were being increasingly used in the textile industry, and the retail trade knew little or nothing of the characteristics or properties of these fibres. Second, war-depleted staffs were being aided by new personnel whose knowledge of textile merchandise was almost nil. And colossal ignorance on the part of half-trained staff is not a very good assurance of satisfaction for intending purchasers.

That, more or less, was the situation that was faced at the start of 1946 when it was decided by a few of the old hands in the British retail trade to resuscitate the Retail Trading-Standards Association and use it as the instrument whereby every effort should be made to bring pride in accuracy and uniformity of description back to the retail trade as a whole.

The Retail Trading-Standards Association had enjoyed a mild success during the middle 'thirties when it had been formed in order to combat the wildly exaggerated and inaccurate advertising of all sorts of merchandise that was prevalent. It was a genuine effort by the big stores to set their own house in order, but its initial success gave way to a good many differences of opinion. Before the war, however, it had succeeded in bringing out an invaluable code of Standards of Retail Practice governing the use of trade terms and descriptions in most of the "soft goods" departments of the normal retail store. It had also founded a Testing House where the retail trade could send fabrics and materials for inspection and test by a trained staff. During the war the Testing House did much useful work for many Government Departments, but the side of the Association which dealt primarily with the setting-up of retail standards and with the checking of display and newspaper advertisements naturally folded up to a large extent.

Semitechnical Bulletins

Not unnaturally, membership of the Retail Trading-Standards Association also folded up during the war years and the bare skeleton staff was kept going through the continued contributions of a few loyal "retainers"—mainly in the shape of large departmental stores in the London area. Consequently, the RTSA early in 1946 was faced with a most important initial problem—that of raising many hundreds of new members and sufficient annual subscriptions to keep going. The Association Council—advised by a new full-time secretary—decided upon a plan of campaign which proved a great deal more successful than had been expected, especially since only the smallest funds were available to provide publicity.

Convinced of two important facts (*a*) that the greater part of all misdescription on the part of the retail trade is due to ignorance, and (*b*) that the retail trade was in a very receptive mood to training of the right sort, the RTSA went ahead with the idea of offering special services for their members which might be of real value in everyday retail business. Using the testing laboratory to its best advantage, RTSA members were offered free advice on the identity of the fibres of any fabric they might like to submit; shortly afterwards there was initiated what is

known as the Trade Information Service in the shape of bulletins giving information on new products of the textile industry. Particularly appreciated was a series of bulletins giving the facts—at that time rather unpleasant—about the intrinsic value of the average plastic fabric which was being fobbed-off on the retail trade by a host of "back-garden" producers. In addition, an occasional bulletin was published which merely gave in semitechnical terms a reminder to the retail trade concerning weaknesses that crop up from time to time in various types of materials. With almost all these bulletins there was enclosed a small sample—perhaps two inches square—of the material under discussion.

Meantime, in another but equally important direction the RTSA was making itself felt. The advertising methods of one or two retail distributors were fearlessly criticised in the trade press and the RTSA succeeded in obtaining either complete abandonment or serious revision of these methods of publicity. In this fight it recruited very successfully the help of the Advertising Association and of various organizations representing the national and provincial newspaper press. The effective results of these various efforts began to impress the retail trade towards the end of 1946 and membership increased at a great pace. Each member has been impressed that the Articles of Association of the RTSA demand that members shall agree to the standards of trading practice laid down by the Association.

Revising the Code of Retail Practice

The biggest postwar job of the RTSA still lies ahead, although it is already being tackled. The code of retail practice—known throughout the retail trade as the RTSA "bible"—is in urgent need of revision to bring it into line with postwar development in the retail trade as regards consumer goods. The Standards of Retail Practice, as the "bible" is officially called, consists of general rules for the retailer covering the principles of accuracy and uniformity in display and press publicity. It deals extensively with correct descriptions of material content, trade names, sizes and measures, off-grades, special claims and statements, use of comparative prices, and so on.

Following the general rules come the more exclusive rules dealing with the various departments to be found in the normal British store. These departmental rules cover bedding, blankets, china and glass, floor covering, furnishing drapery, furniture and metal furniture, furs, gloves, hosiery, ironmongery and turnery, laces etc, leather, linens, millinery, piece goods, and underwear. Each departmental rule covers trade names, material content, description relating to manufacture, general descriptions, and so on. A guide to the technical meaning of hundreds of terms and expressions used in the retail trade is therefore provided throughout the series.

On the revision and amendment of these various departmental rules a number of expert subcommittees is at present engaged. The going is tough and every effort is made to get the greatest consensus of opinion on any ticklish matter of terminology. And in this country there are hundreds of divergences of opinion on technical words, partly because the manufacturing end very often gives a different meaning to a term from that normally understood by the public. Needless to say, it is of importance to find a balance between the two extremes. However, the work presses on and the revised General Rules and several departmental rules are ready for the press. All that is needed at the moment of writing is some electricity to power the machines!

NOTE: As this issue goes to press, the ASA has just received the newly revised General Rules of the "Standards of Retail Practice" series.

Australia Plans Committee To Coordinate Safety Codes

Standards Association Recognizes Safety Codes As Essential Feature of Work of National Program

AS the result of a special conference on safety standards in December, delegates representing Australian government and industry have given official sanction to the formation of a safety coordinating committee. This group will supervise work on safety codes and practices as undertaken by the Standards Association of Australia.

While many safety codes have been completed since consideration was first given to that type of project in 1926, there has never been any coordination among the many organizations at work in the safety field. The establishment of supervisory committees for other phases of the Australian Standards Association's work had been started prior to the recent war but had been interrupted before any action could be taken in regard to safety standards. The Imperial Conference in London in October 1946, composed of representatives of science throughout the empire, had emphasized the importance of safety code work and such activity was recognized as one of the essential features of the work now being done by the national standardizing bodies.

All of this, in addition to the number of recent requests for new codes, brought about a definite need for some coordinating influence. The special conference on safety standards was called to sound out opinion on the subject and it was generally agreed that the Standards Association of Australia should proceed with the preparation of safety codes and specifications for accident prevention, and that it would be desirable to have a coordinating committee to supervise this work. It was suggested that the preparation of codes and specifications relating to any particular industry be undertaken upon the recommendation of that industry.

One of the first assignments made was for the preparation and issuance of a code of general principles relating to safe working practices in industry. In addition, the conference recommended that a code for uniform accident statistics covering the detailed recording and classification of data and the computation of accident frequency and severity rates also be drawn up.

Book Marks

Bibliography of Industrial Engineering and Management Literature. By Ralph M. Barnes and Norma A. Englert (William C. Brown Company, 973 Main Street, Dubuque, Iowa, $3.00)

More than 1200 important books and bulletins in the general field of industrial engineering and management are listed in this volume. In addition, the bibliography contains references to more than 3000 articles and papers on motion and time study and related studies. This is the only comprehensive guide to recent periodical literature in the field of motion and time study. The bibliography gives the name of the author, the article, publisher, volume number, page number, and date. It also includes a classified index of articles and papers under 47 main headings and 79 subheadings.

Industrial Standardization—Its Principles and Application. By John Gaillard (H. W. Wilson Company, 950-72 University Avenue, New York 52, N. Y., $2.00)

The significance of industrial standardization as an indispensable coordinating function has been emphasized again in the latest world war. Some of the most essential war production programs could be effectively developed only after standards had created a basis for order and system. A strong standardization movement began, for example, in the aircraft industry and a large number of engineers in this branch of industry have been called upon to organize company standards departments.

This interest has led to an increased demand for copies of *Industrial Standardization—Its Principles and Application*, by John Gaillard, which has just become available again after being out of circulation for several years. Dr Gaillard has been the mechanical engineer on the staff of the American Standards Association more than twenty years. In his book, he describes the evolution of standardization and its functions, especially in the United States. Although the book was first published in 1934, the material is still timely due to its fundamental approach to the problems involved.

List of Approved Electrical Equipment—First Edition, Supplement "C" (Canadian Standards Association, Approvals Division, Ottawa, Canada)

Listed herein is the electrical equipment which was approved by the Canadian Standards Association from September 1, 1946 to December 31, 1946. The equipment listed was examined and tested with reference to fire and accident hazards and in accordance with the provisions of the Canadian Electrical Code, Part II, prepared by the Canadian Standards Association Committee. The provisions of Canadian Electrical Code, Part I, have also been followed in regard to installation and use. Attention is called to the current and voltage limits and classifications and to the markings and other limitations applying to listed items.

SAE Handbook 1947 Edition (Society of Automotive Engineers, 29 West 39th Street, New York 18, $10.00. Separate Sections, SP-30, $3.00; SP-31, $2.50; SP-32, $2.00; SP-33, $1.50; SP-34, $1.50; SP-35, $2.00.)

War-developed data and new standards, plus material revised from 36 prior editions, are available in this latest edition of the automotive engineers' "technical bible."

Featured among new data are the first specifications for hydraulic brake fluids, standards for involute serrated shafts, nomenclature and definitions for three types of crankcase oil, standards for pipe, filler, and lubrication fittings, specifications for automotive steel castings, and general information on welding electrodes and on copper and silver brazing.

To facilitate utilization of the handbook material, six pamphlets, each separately printed from a section of the *Handbook*, have been made available as follows: Iron and Steel Specifications, SP-30; Nonferrous Standards and Specifications, SP-31; Standards for Rubber Compounds, Hoses, Brake Cups, and Brake Fluid, SP-32; Standards for Storage Batteries for Motor Vehicles, SP-33; Standards for Lighting Equipment and Photometric Tests, SP-34; Standards for Splines and Serrations, SP-35.

Thinner, lighter, and larger than previously issued handbooks, the new publication also has the advantage of continuous page numbering in place of the confusing skip-number system.

Standard Stock Catalog (City Record Office, Room 2213, Municipal Building, New York 7, $10.00)

Because of changes in commodities, many caused by the war, the New York City Department of Purchase has found it necessary to revise its Standard Stock Catalog. The third edition, 1947, supersedes the previous catalog of 1941. It has been prepared for use by all city departments and agencies as an aid in requisitioning supplies and equipment.

The catalog itself is an alphabetical list of the stock and materials in the 31 storehouses operated by the Department of Purchase. Each item is carefully described and numbered by specification number, budget expense number established by the Comptroller's Manual of Expense Accounts, and commodity code number. Arrangement is by commodity classification, comprising 79 different classes, such as engine and fire room fittings, pipe, paint, office equipment, fire-fighting equipment, stationery, etc.

Testing Terms for Better Understanding (United States Testing Company, Inc, Hoboken, New Jersey)

This is a new printing of the United States Testing Company's informative booklet, dedicated to better understanding of some of the important tests of merchandise—how tests are made, what the results mean, what are standard and minimum specifications. The revised edition includes a description of the abrasion test, with standards on various types of fabrics, descriptions of aging, air permeability and animal injection tests, among others. Flexural strength is defined and a detailed description of hosiery analyses is given. Standard textile regains for all textile fibers is listed. The seam slippage test is described. The warmth tester as developed by the United States Testing Company is included, together with minimum serviceability standards and warmth coefficient for blankets.

1946 Book of ASTM Standards (American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa. In five volumes, $44.00. In separate volumes—Parts IA, IB, IIIA, or IIIB, $8.00; Part II, $12.00)

With more than 1400 standards, specifications, tests, and definitions for a wide range of material, the 1946 *Book of Standards*, in five volumes, includes all the ASTM specifications and tests in their latest approved form. Because of the growth in the number and volume of standards and tentatives, this edition has been issued in five separate parts, instead of the former three volumes. Each with a complete subject index, the volumes are divided as follows: ferrous metals, Part IA; nonferrous metals, Part IB; nonmetallic materials—constructional, Part II; nonmetallic materials—coal and coke, petroleum products, aromatic hydrocarbons, soaps, waters, textiles, gaseous fuels, Part IIIA; and nonmetallic materials—electrical insulating materials, plastics, rubber, paper, shipping containers, adhesives, Part IIIB.

In addition, there are two extensive tables of contents—the first lists all standards under general materials headings; the second, according to the serial designations of the standards.

To keep the books up-to-date, a supplement will be issued to each part late in 1947. As an extra service, a complete index to standards is furnished without charge.

Traffic Engineering and the Police. By Henry K. Evans and Franklin M. Kreml (National Conservation Bureau, 60 John Street, New York; International Association of Chiefs of Police, Evanston, Illinois, $2.00)

This revised and expanded edition of *Traffic Engineering and the Police* will assist in the practical solution of traffic problems and appears to be an excellent source of material for students of highway traffic problems.

Amply illustrated, its pictures and charts depict space, time, and motion relationships. "Before" and "after" sketches deal with problems typical wherever automobile traffic congestion is found. Many models of procedure and actual instruction sheets and charts are provided for obtaining data which is so necessary and basic in the control of accidents on the highway.

ASA Standards Activities

American Standard Approved

Building Code Requirements for Steel Joist Construction, A87.1-1947
Sponsors: American Iron and Steel Institute; American Society of Civil Engineers

American Standard Reaffirmed

Scheme for the Identification of Piping Systems, A13-1928 Reaffirmed 1947
Sponsors: American Society of Mechanical Engineers; National Safety Council

Standards Being Considered for Approval

Practice for Street and Highway Lighting, D12
Sponsor: Illuminating Engineering Society

Machine Pins, B5.20
Sponsors: American Society of Mechanical Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers

Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses (Revision of ASTM A120-44; ASA G8.7-1945)

Forged or Rolled Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service (Revision of ASTM A105-40; ASA G17.3-1940)

Steel for Bridges and Buildings (Revision of ASTM A7-42; ASA G24.19-1942)

Structural Silicon Steel (Revision of ASTM A94-39; ASA G41.1-1942)
Proprietary Sponsor: American Society for Testing Materials

Textile Safety Code (Revision of L1-1929)
Sponsor: National Safety Council

Method for Determining Resolving Power of Lenses for 35-Millimeter Slidefilm and 2 × 2-Inch Slides, Z38.7.16.

Method for Determining Photographic Speed and Exposure Index (Revision of Method for Determining Photographic Speed and Speed Number, Z38.2.1-1946)
Sponsor: Optical Society of America

Code for Electricity Meters (Revision of C12-1941)
Sponsors: Electric Light and Power Group; National Bureau of Standards, U. S. Department of Commerce

Standards Being Considered for Reaffirmation

Manhole Frames and Covers for Subsurface Structures, A35.1-1941
Sponsors: American Society of Civil Engineers; ASA Telephone Group

Engineering and Scientific Charts for Lantern Slides, Z15.1-1932

Time-Series Charts, Manual of Design and Construction, Z15.2-1938

Engineering and Scientific Graphs for Publications, Z15.3-1943
Sponsor: American Society of Mechanical Engineers

Withdrawal of Approval Being Considered

Dimensions for Amateur Roll Film and Backing Paper, No. 2, Z38.1.8-1943

Dimensions for Amateur Roll Film and Backing Paper, No. 6, Z38.1.12-1943

Dimensions for Amateur Roll Film and Backing Paper, No. 8, Z38.1.14-1943

Dimensions for Amateur Roll Film Spools, No. 2, Z38.1.17-1943

Dimensions for Amateur Roll Film Spools, No. 7, Z38.1.22-1943
Sponsor: Optical Society of America

Specification for Photographic Contact Printers, American War Standard, Z52.18-1945

Specification for Projectors for Slides and Slide-Films, American War Standard, Z52.28-1945

Code for Electricity Meters, American War Standard, C12WS-1942

Standards Submitted for Approval

Specifications for Dry Cells and Batteries (NBS Circular C435) (Revision of C18-1941)
Sponsor: National Bureau of Standards, U. S. Department of Commerce

Standards Submitted for Approval—Continued

Safety Code for Bakery Equipment, Z50
Sponsor: American Society of Bakery Engineers

Dimensions for 16-Tooth 35-Millimeter Motion Picture Projector Sprockets (Revision of Z22.35-1930), Z22.35/49

Cutting and Perforating Dimensions for 16-Millimeter Silent Motion Picture Negative and Positive Raw Stock (Revision of Z22.5-1941), Z22.5/45

Cutting and Perforating Dimensions for 16-Millimeter Silent Motion Picture Negative and Positive Raw Stock (Revision of Z22.12-1941), Z22.12/47

Cutting and Perforating Dimensions for 8-Millimeter Motion Picture Negative and Positive Raw Stock (Revision of Z22.17-1941), Z22.17/43

Cutting and Perforating Dimensions for 35-Millimeter Motion Picture Positive Raw Stock (Revision of Z22.36-1944), Z22.36/46

Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories, Z22.56
Sponsor: Society of Motion Picture Engineers

Sizes of Clay Flue Linings, A62.4
Sponsors: American Institute of Architects; Producers' Council

News About ASA Projects

Colors for Industrial Apparatus and Equipment, Z55—

Sponsor: Mechanical Standards Committee

Organized primarily to develop a series of shades of gray to be recommended for the exterior finish on industrial apparatus and equipment in those applications where gray is ordinarily used and desired, Sectional Committee Z55, Colors for Industrial Apparatus and Equipment, held its organization meeting June 11, at ASA headquarters.

The sectional committee recommended to the Mechanical Standards Committee approval of the following scope:

Colors for exterior finish of industrial apparatus and equipment selected for making possible the satisfactory matching in appearance of a combination of units, either in regard to uniformity of color or in regard to harmonious combination of different colors. Significant colors, such as those used for the identification of industrial apparatus or equipment, or the marking of physical hazards, are not included in this scope.

(This scope was subsequently approved by the MSC subject to letter ballot vote, see "Mechanical Standards Committee," page 169.)

The committee voted that a subcommittee be appointed to prepare a draft American Standard covering a series of gray colors, including nominal values and tolerances, taking into consideration the effect of gloss and texture.

Dimensions of Ball and Roller Bearings, B3—

Sponsor: Mechanical Standards Committee

On June 10, Sectional Committee B3, on Ball and Roller Bearings, which deals with the dimensional standardization of these products, held its first meeting since reorganization of the committee. The reorganized committee, under the sponsorship of the ASA Mechanical Standards Committee, replaces the original sectional committee organized in 1920, which was under the joint sponsorship of the American Society of Mechanical Engineers and the Society of Automotive Engineers.

The sectional committee decided to expand the scope of its activities and voted to recommend to the Mechanical Standards Committee the approval of the following scope:

Terminology and definitions of bearings and bearing parts; nominal dimensions of ball and roller bearings affecting their assembly with other machine parts; methods of inspection; shaft and housing tolerances, and selection of fits to suit various conditions; load rating formulas; dimensions of mounting accessories; practice of packaging bearings for domestic use and export.

(This scope was subsequently approved by the MSC subject to letter ballot vote.)

The sectional committee further voted to recommend withdrawal of the three existing American Standards, all of which are now out of print. These are: Annular Ball Bearings—Single Row Type and Separable

(Open) Type, B3.1-1933; American Recommended Practice Annular Ball and Roller Bearings—Wide Type, B3.2-1930; and American Standard Angular Contact Type Ball Bearings, B3.13-1933.

Three subcommittees were organized by the committee, with instructions to prepare drafts of proposed American Standards for submittal to the full sectional committee:

Subcommittee No. 1

Nominal dimensions and tolerances of anti-friction bearings as affecting their assembly with other machine parts and methods of inspection.

Hudson T. Morton (Power Transmission Association), *Chairman*

H. N. Parsons (Society of Automotive Engineers)

H. W. Robb (National Electrical Manufacturers Association)

Subcommittee No. 2

Limiting dimensions for housings and shafts; recommended fits; mounting accessories.

H. H. Gillespie (Bureau of Ships, Navy Dept), *Chairman*

L. A. Cummings, (Anti-Friction Bearing Manufacturers Association)

Roger S. Pyne (National Machine Tool Builders' Association)

Subcommittee No. 3

Terminology and definitions of bearings, bearing parts, and mounting accessories.

Robert Riblet (Anti-Friction Bearing Manufacturers Association), *Chairman*

J. G. Roth (Society of Automotive Engineers)

W. P. Kennedy (American Society of Mechanical Engineers)

Victor L. Barr, director of engineering and vice-president, Roller Bearing Company of America, presided as temporary chairman.

Dry Cells and Batteries, C18—

Sponsors: National Bureau of Standards, U. S. Department of Commerce

A proposed revision of the American Standard Specification for Dry Cells and Batteries, C18-1941, has been submitted by the sponsor to the ASA for approval and is at present out to letter ballot of the Electrical Standards Committee.

Numbering System for Anti-Friction Bearings, B54—

Sponsor: Mechanical Standards Committee

At its meeting June 10, Sectional Committee B54, on Numbering System for Anti-Friction Bearings, had under consideration two systems for the identification of anti-friction bearings: one which had been developed by the Anti-Friction Bearing Manufacturers Association (AFBMA) and the other by the Navy Department. Details of the two systems were explained, after which the sectional committee unanimously decided that a subcommittee should be appointed to prepare a draft of a proposed American Standard Numbering System for Anti-Friction Bearings, based on the AFBMA system. When the draft has been completed, it is to be sent out to industry for comment and criticism prior to being referred to the full sectional committee.

The June meeting was under the temporary chairmanship of F. T. Ward, chairman of the ASA Mechanical Standards Committee.

Office Standards Project, X2—

Sponsor: National Office Management Association

A subgroup of the committee on business machines which was assigned the study of standard attachments of typewriters to desks has prepared a questionnaire to be sent to typewriter manufacturers. The standards of the Wood Office Furniture Institute are now being considered by the subgroup on wooden desks as a possible basis for its own standardization work. A proposed list of items falling within the scope of the office supplies subcommittee is now being considered in an effort to establish a definite scope for this subcommittee.

Power Presses and Foot and Hand Presses, B11—

Sponsor: National Safety Council

At a meeting in Boston on June 9 and 10, this sectional committee voted that the fourth draft of the revision of the American Standard Safety Code for Power Presses and Foot and Hand Presses, B11-1937, as amended at that meeting, be submitted to letter ballot of the sectional committee for approval.

School Lighting, A23—

Sponsors: American Institute of Architects; Illuminating Engineering Society

The sectional committee met on June 17 to consider a revision of the American Recommended Practice for School Lighting, A23-1938.

Standards for Electric Lamps, C78—

Sponsor: Electrical Standards Committee

Interlaboratory lamp test data were reviewed at the last meeting of Subcommittee 2 on electric discharge lamps and electrical ratings were established for two of the conventional electric lamps as a result of these tests.

Units of Measurement—

ASA is cooperating in ascertaining whether American industry is interested in the establishment of a simplified legal ratio between the inch and the millimeter and between the inch and a light wavelength. A questionnaire has been mailed to the 2000 Company Members of ASA requesting an expression of the viewpoint of management on this matter.

This poll of Company Members has been undertaken by the Metric Committee which was appointed some time ago by the ASA Standards Council to study means of alleviating some of the difficulties arising through the use of both English and metric units of measurement in this country. Among the proposals this group will consider is, for example, the extent to which it is desirable to include metric equivalents in the publication of American Standards.

One such minor difficulty has been the lack of a legal simplified ratio between the inch and the millimeter. It happens that the national standardizing bodies of 14 countries, among them the ASA, have adopted for industrial use the value of 1 inch equals 25.4 millimeters. At the suggestion of the Navy Department which had experienced difficulties during the war, the Department of Commerce prepared a bill intended for Congressional action which would legalize the 25.4 ratio. It also carried a supplementary definiiton of the inch in terms of light waves.

In bringing the matter to the attention of the ASA Company Members, the questionnaire asks the following:

1. Would the proposed legislation of the simplified ratio of 25.4 between the millimeter and the inch be advisable at this time?
2. Would the proposed legislation establishing a ratio between the inch and light wavelength, such as the red radiation of cadmium, be advisable at this time?
3. Will the legalization of these proposals be of benefit to your organization?

Replies are to be returned to the committee not later than August 15, 1947.

Bryans Named President Of Philadelphia Electric

Henry B. Bryans, past-president of the American Standards Association, has just been elected president of the Philadelphia Electric Company, succeeding Horace P. Liversidge, now chairman of the board. Mr Bryans has spent his entire career in the public utility business. In 1929 he was named vice-president in charge of operations of the Philadelphia Electric Company, and was elected executive vice-president in 1938.

Mr Bryans was president of the American Standards Association from 1944 through 1946. He is president of the Electrical Association of Philadelphia, director of the Edison Electric Institute, and a past-president of the Pennsylvania Electric Association.

One Size Replaces 175

Since 1900 a standard lamp socket and base has replaced the 175 sizes formerly used in residential installations, says a Twentieth Century Fund report.

Actions on Commercial Standards and Simplified Practice Recommendations

Commercial Standards

Announced by the Division of Trade Standards, National Bureau of Standards

Body Measurements for the Sizing of Apparel for Boys, TS4400—

This is the third of a coordinated series of standards which will cover the body measurements of boys, from infants and babies to teenage. Its purpose is to provide standard size designations and body measurements for the sizing of boys' apparel to serve as a guide for those engaged in producing or preparing specifications for ready-to-wear garments and patterns. Another purpose is to establish standard inseam, outseam, and true rise measurements for slacks.

Gowns for Hospital Patients, Recommended Commercial Standard TS-4382—

The purpose of this Commercial Standard is to provide standard methods of measuring and standard minimum measurements for gowns for hospital patients. It covers size designations; specifies the number of stitches per inch, and the type stitch used in sewing different parts of the garment; and includes a recommendation that the collar facing be 1½ inches double thickness reinforced with bias tape.

Materials for Safety Wearing Apparel (Second Edition), CS129-47—

This revision of CS129-46 is effective for new production from July 21, 1947. It covers minimum quality requirements for the materials used in the manufacture of safety wearing apparel, including asbestos fabrics, cotton fabrics (flame-resistant), leather, woolen fabrics, and accessory materials.

Mineral Wool: Batts, Loose-Fill and Granular-Fill, for Building Insulation, TS4396—

It is the purpose of this proposed standard to establish minimum specifications for mineral wool products used in insulating dwellings and other building structures, except refrigerated spaces, by providing minimum requirements for thermal conductivity, lubricant or binder, fire resistance, construction, and density. The designated types of mineral wool insulation covered by this standard are as follows: batts without membrane facing; batts with membrane facing on one principal face; batts with enveloping membranes; loose fill; and granular fill.

Porcelain-Enameled Steel Utensils, Proposed Revision of CS100-44—

Performance requirements for porcelain-enameled steel utensils, both multiple-coated and single-coated, for cooking, household, food storage, and hospital use are provided herein. The requirements also include quality of base metal, appearance, thickness, enameling; resistance to boiling acid, thermal shock, and impact; capacity, methods of test, and identification.

Prefabricated Homes, Recommended Revision of CS125-45—

By providing minimum requirements, this standard hopes to establish a measure of quality for 1-, 1½-, and 2-story prefabricated homes. Requirements for light and ventilation, space access and privacy, structural strength of the various component parts, thermal insulation, condensation control, heating, plumbing, and electric wiring are included.

Simplified Practice Recommendations

Announced by the Division of Simplified Practice, National Bureau of Standards

Adhesive Plaster, Recommended Revision of R85-43—

This recommendation, first promulgated in 1928, contains an approved list of varieties of adhesive plaster. Several types of adhesive not in the recommendation before are added to provide a simplified list to meet a greater variety of the needs of hospitals, doctors, and others who use this material.

Asphalt Tile, R225-47—

A simplified list of sizes and colors for asphalt tile and asphalt cove base is established in this recommendation, effective May 15, 1947.

Bell-Bottom Screw Jacks, R97-47—

This revision of R97-42 is effective from June 1, 1947. First promulgated in 1930, this is the second revision and is occasioned by return to peacetime practice. The principal change is the addition of a table of eight sizes of ratchet-head type jacks. In the four-way head type jacks, the 1 x 6 in. size has been omitted and a 2½ x 10 in. is added. The rise of the screw for each size jack of both types has been included.

Standard-Grade Galvanized Ware, R226-47—

Effective July 1, this recommendation concerns the capacities or dimensions of both hot-dipped and sheet-construction types of standard-grade galvanized ware. The items included are: water pails, fire pails, well buckets, round tubs, square tubs, baskets, coal hods, sprinklers, garbage and ash cans, garbage pails, and grain or feed measures. Heavy and extra heavy grades are not included.

Wire Nails and Staples, R223-47—

This recommendation, effective March 1, 1947, comprises 29 tables covering the sizes of fence-staples, poultry-netting staples, and the kind and sizes of wire nails commonly used by the various building trades and box manufacturers. Each kind of nail and staple is illustrated to help in identifying it and for visual comparison between the different kinds.

John J. Harman

The American Standards Association wishes to express its deepest sympathy over the recent passing of John J. Harman, former general secretary of the Manufacturers Standardization Society of the Valve and Fittings Industry.

Aldens Prefers Suppliers Who Use Quality Control

Aldens, Inc, formerly the Chicago Mail Order Company and third largest mail order firm in the country, now is classifying all its suppliers according to their attitude toward quality control. According to a statement by its president, R. W. Jackson, because Aldens has had years of experience with quality control it would prefer to do business wth manufacturers who have adopted the statistical method of quality control.

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